

NUMBER 136

SEPTEMBER & OCTOBER 2015

# COOK'S

---

## ILLUSTRATED



15-Minute Grilled  
Country Ribs

Superflaky Biscuits  
More than 50 Layers

Spanish Chicken  
Easy Braise, Bold Flavors

Carbon-Steel Skillets  
Chefs' Secret Weapon

Chocolate-Caramel  
Layer Cake

Indoor Flank Steak  
Even Better than Grilled

Freezer Tips and Tricks  
Should You Freeze Flour?



Sausage Meatballs  
Middle Eastern Bread Salad  
Homemade Apple Butter  
Best Black Bean Burgers

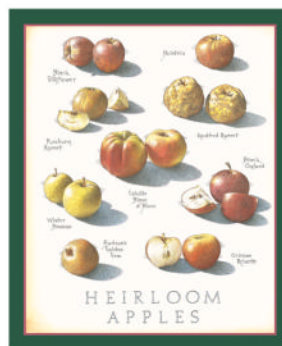
CooksIllustrated.com  
\$6.95 U.S. & CANADA

# CONTENTS

September & October 2015

- 2 Quick Tips**  
Quick and easy ways to perform everyday tasks, from saving bacon grease to storing eggs.  
**BY SHANNON FRIEDMANN HATCH**
- 4 Great Pan-Seared Flank Steak**  
Flank steak has it all: rich, beefy flavor; lean meat; and a reasonable price tag. Its one downfall? It only seems to work on the grill. **BY ANDREA GEARY**
- 6 Ultimate Flaky Biscuits**  
For layered, ultraflaky biscuits, you've got to know when to fold them and when to hold them.  
**BY ANDREW JANJIGIAN**
- 8 Spanish Braised Chicken**  
The rich flavor and lush consistency of this classic dish from Spain's Castilla-La Mancha region depend on a sherry-based sauce thickened with ground almonds and egg yolks. **BY ADAM RIED**
- 10 Sausage Meatballs and Spaghetti**  
A good meatball is tender enough to cut with a fork; sausage is inherently firm and springy. So is there any way to make a tender sausage meatball?  
**BY ANNIE PETITO**
- 12 Introducing Fattoush**  
This Middle Eastern bread salad is hard to beat—if you get the textures right. We set out to preserve the crunch. **BY LAN LAM**  
**PLUS: TESTING KITCHEN TRASH CANS**
- 14 Grilled Country-Style Ribs**  
Though not true ribs, this lesser-known cut pairs the rich flavor of ribs with the quick cooking of a chop.  
**BY LAN LAM**
- 15 A New Way to Sauté Summer Squash**  
A common kitchen tool gets around the core issue.  
**BY ANNIE PETITO**
- 16 Guide to Freezing Ingredients**  
Too often, that extra half can of tomato paste or handful of chopped onion gets thrown away. We tested dozens of ingredients to see which we could freeze. **BY KEITH DRESSER AND LOUISE EMERICK**
- 18 Black Bean Burgers**  
Earthy black beans should make a satisfying nonmeat burger. But most either fall apart when flipped or are so mushy that no one wants to eat them.  
**BY ERIKA BRUCE**
- 20 Chocolate-Caramel Cake**  
The cake and frosting we weren't worried about. But a caramel filling that was complex in flavor and spreadable, yet thick enough not to ooze out? That was another matter. **BY LAN LAM**
- 23 The Chef's Secret Weapon**  
What if one pan could do everything the best traditional stainless-steel, cast-iron, and nonstick pans can do—and, in some cases, even do it a little better?  
**BY LISA McMANUS**
- 26 Tapping into Maple Syrup's Secrets**  
Maple syrup continues to be produced on small farms in the same low-tech way that it has been for centuries. But that's not the whole story.  
**BY LAUREN SAVOIE**
- 28 Ingredient Notes**  
**BY KEITH DRESSER, ANDREA GEARY, LAN LAM & ANNIE PETITO**
- 30 Kitchen Notes**  
**BY ANDREA GEARY, ANDREW JANJIGIAN, LAN LAM & DAN SOUZA**
- 32 Equipment Corner**  
**BY HANNAH CROWLEY, LISA McMANUS & KATE SHANNON**

**HEIRLOOM APPLES** There are hundreds of centuries-old apple cultivars. **KNOBBED RUSSETS**, an old English breed, have rough-textured skin and rich sweetness. The exteriors of **ROXBURY RUSSETS**, supposedly the oldest species of American apple, are similarly sandpapery and give way to crisp, pleasantly tart flesh. Mustard-colored **HUDSON'S GOLDEN GEMS** share the potato-like skin of russet varieties but have softer flesh that tastes like pears. The French **CALVILLE BLANC D'HIVER** delivers big crunch and tartness, while its native cousin, the red-flushed **ORLEANS REINETTE**, is firm and sweet. **BLACK OXFORDS** from Maine are actually plum-colored, and beyond their thick skin their flavor is subtle. Conversely, Connecticut's deep red **BLACK GILLIFLOWER** is soft and floral. While **WINTER BANANA** apples don't taste like their namesake, they do hint at tropical fruits. German **HOLSTEINS** are bright with well-balanced sweet-tart flavor. **COVER (Cabbage): Robert Papp; BACK COVER (Heirloom Apples): John Burgoyne**



— AMERICA'S —  
**TEST KITCHEN**  
RECIPES THAT WORK®

America's Test Kitchen is a very real 2,500-square-foot kitchen located just outside Boston. It is the home of *Cook's Illustrated* and *Cook's Country* magazines and the weekday destination of more than three dozen test cooks, editors, and cookware specialists. Our mission is to test recipes until we understand how and why they work and arrive at the best version. We also test kitchen equipment and supermarket ingredients in search of products that offer the best value and performance. You can watch us work by tuning in to *America's Test Kitchen* ([AmericasTestKitchen.com](http://AmericasTestKitchen.com)) and *Cook's Country* from *America's Test Kitchen* ([CooksCountry.com](http://CooksCountry.com)) on public television.

**COOK'S**  
ILLUSTRATED

**Founder and Editor** Christopher Kimball  
**Editorial Director** Jack Bishop  
**Editorial Director, Magazines** John Willoughby  
**Executive Editor** Amanda Agee  
**Test Kitchen Director** Erin McMurrer  
**Managing Editor** Rebecca Hays  
**Executive Food Editor** Keith Dresser  
**Executive Tastings & Testings Editor** Lisa McManus  
**Senior Editors** Hannah Crowley  
Andrea Geary  
Andrew Janjigian  
Dan Souza  
**Senior Editors, Features** Elizabeth Bomze  
Louise Emerick  
**Senior Copy Editor** Megan Ginsberg  
**Copy Editors** Jill Campbell  
Krista Magnuson  
Lan Lam  
**Associate Editors** Chris O'Connor  
**Test Cooks** Daniel Cellucci  
Steve Dunn  
Annie Petito  
**Assistant Editors** Lauren Savoie  
Kate Shannon  
**Assistant Test Cooks** Allison Berkey  
Matthew Fairman  
**Executive Assistant** Christine Gordon  
**Assistant Test Kitchen Director** Leah Rovner  
**Senior Kitchen Assistants** Alexxa Grattan  
Meridith Lippard  
**Kitchen Assistants** Blanca Castanza  
Maria Elena Delgado  
Ena Gudiel  
Melissa Baldino  
**Executive Producer** Stephanie Stender  
**Co-Executive Producer** Kaitlin Hammond  
**Associate Producer** Madeline Heising  
**Production Assistant** Dawn Yanagihara  
**Contributing Editor** Guy Crosby, PhD  
**Science Editor** Amy Klee  
**Consulting Creative Director** Christine Liu  
**Managing Editor, Web** Jill Fisher  
**Social Media Manager** Roger Metcalf  
**Senior Editor, Web** Terrence Doyle  
**Assistant Editor, Web** Nick Dakoulas  
**Senior Video Editor** Anne Bartholomew  
**Product Manager, Cooking School** Mari Levine  
**Senior Editor, Cooking School**  
**Design Director, Print** Greg Galvan  
**Photography Director** Julie Cote  
**Art Director** Susan Levin  
**Associate Art Director** Lindsey Timko  
**Art Director, Marketing** Jennifer Cox  
**Deputy Art Director, Marketing** Melanie Gryboski  
**Associate Art Director, Marketing** Janet Taylor  
**Designer, Marketing** Stephanie Cook  
**Staff Photographer** Daniel J. van Ackere  
**Associate Art Director, Photography** Steve Klise  
**VP, Print & Direct Marketing** David Mack  
**Circulation Director** Doug Wicinski  
**Circulation & Fulfillment Manager** Carrie Fethe  
**Partnership Marketing Manager** Pamela Putprush  
**Marketing Coordinator** Marina Tomao  
**Chief Operating Officer** Rob Ristagno  
**VP, Digital Products** Fran Middleton  
**Production Director** Guy Rochford  
**Imaging Manager** Lauren Robbins  
**Production & Imaging Specialists** Heather Dube  
Sean MacDonald  
Dennis Noble  
Jessica Voas  
**Director, Business Systems** Alice Carpenter  
**Project Manager** Britt Dresser  
**Director of Engineering** Welling LaGrone  
**Senior Controller** Theresa Peterson  
**Customer Loyalty & Support Manager** Amy Bootier  
**Customer Loyalty & Support Reps** Caroline Augliere  
Rebecca Kowalski  
Andrew Straaberg Finrock  
**VP, New Business Development** Michael Burton  
**Director, Marketing & Sales** Deborah Fagone  
**Client Services Manager** Kate Zebrowski  
**Sponsorship Sales Associate** Morgan Mannino  
**Director, Retail Book Program** Beth Ineson  
**Retail Sales Manager** Derek Meehan  
**Human Resources Director** Adele Shapiro  
**Publicity** Deborah Broide  
**Associate Director, Publicity** Susan Hershberg

PRINTED IN THE USA

# THE ROCK

I recently visited my 19-year-old son, Charlie, in Utah where he was part of an Outward Bound-style adventure. The day I visited was rock-climbing day, replete with harnesses, carabiners, ropes, helmets, belay devices, and special climbing shoes. The group took more than an hour to set up the ropes as I sat around watching ripe-smelling twentysomethings crab their way up the cliff, legs akimbo. Then the inevitable happened—it was my turn.

When you are a tad over 60 and, while you are standing at the bottom of a cliff, someone shouts out “your turn,” three things happen. First, you are transported back to third-grade physical education class—the one with the rope hanging from the gym ceiling—and it is now “your turn” to humiliate yourself in front of the jocks, the ones who, grinning, bulldoze you headfirst into the turf during football practice. Second, you make the mistake of looking upward, taking in the sheer height of the perfectly smooth outcropping, and imagining falling off the rock wall in slow motion, flailing your way to the ground. Finally, your digestive system seizes, drops, and leaves you with an intense desire to make a dash for the bushes. Of course with your son watching, there is no way out. Your choice is clear—death or humiliation.

The next step is education. Put on your harness. Strap in so the word “danger” does not appear on any buckles (when that word is obscured, the straps are properly threaded). Then you have to learn to tie a figure-eight follow-through knot that secures the rope to your harness. Put another way, you have seconds to learn how to tie a complicated knot—your life actually depends on it holding—and the person monitoring your progress is not old enough to remember sneakers without Velcro.

Then the signals. There is the climber, the belayer, and the backup belayer. (The last exists, in my mind, to step in if the glassy-eyed, slightly unhinged first belayer decides to separate from his right mind during the climb.) The climber says things such as “On rock!” to which the belayers say “Rock on!” And com-

mands such as “Slack rope” and “Up rope” make sense. But I realized that the two most important commands, “Belay on!” and “Belay off!” sound remarkably similar. In fact, the previous climber called down “Belay on!” and the person on the ground thought he said, “Belay off!” This meant, of course, that instead of securing the climber firmly to the rope, the belayer took him off the rope, greatly increasing the chances of a chaotic, screaming descent and death. On that note, I headed upward.

Ten minutes later, I was 35 feet above the ground on a sheer rock face. The footholds were ½ inch wide. My left leg was at a 75-degree angle to my torso, my left foot shoved into what I hoped was a deep crevice. My right arm was fully extended, sweeping the smooth rock face like a blind man touching the face of a stranger. I realized that I could not move. There was no down, no up, no sideways, just frozen inertia, like my childhood cat, Midnight, with her claws caught in the screen door, body hanging limply. Having been railroaded into this activity without much thought, I realized where I was—on a sheer, vertical rock face, tied to a rope held by a teenager for whom Beavis and Butthead are household gods. Then I remembered the only really useful command—“On rappel!”—which meant that I was quickly bounding off the rock face, gratefully heading back down to safety.

Things on the ground, however, were tense. Rock climbing, as it turned out, is a test of character. I learned later that some students are left for an hour or more, dangling from the rope, crying and begging to be returned to terra firma. Having given up in just a matter of minutes, I had despoiled the family name, embarrassed my son, and become an outsider.

Charlie cooked lunch on his portable stove—Minute Rice and dehydrated beans washed down with warm water. I think Dustin Hoffman ate better in the movie *Papillon*. After a brief rest and a bout of group motivational therapy, we headed back to the cliff face.



Christopher Kimball

I grew angry. This was supposed to be a Bertie Wooster-type outing: a pleasant day in a Utah canyon, a slap on the back, a good feed, and a bit of mild adventure, all perfectly posed like snapshots in the family album. Instead, I had been sandbagged into rock climbing, dismissed it as a meaningless exercise, and then realized that I had broken the cultural code of the climber. I had given up.

So when the 6'7" guide—all muscle, shorts, and sinew—asked if anyone would like a second climb, I rushed over, put on climbing shoes, whipped together my figure-eight follow-through, clipped on the carabiner, and headed upward. It is not an exaggeration to say that I flew up that rock face like a giant spider chasing a juicy dinner. I lunged toward the top, spread-eagled to get a good grip, located those tiny footholds that I had missed that morning, and quickly found myself at the summit. I didn't even take in the view—I shouted “Rappel!” and pushed off the cliff like Sylvester Stallone in *Cliffhanger*.

Reveling in my success, I looked around for a note of celebration. Charlie was making googly eyes at the pigtailed German guide with bad breath, the two belayers were deep into a discussion of when *Star Wars* meets *The Lord of the Rings*, and most everyone else was in animated conversation about the last time they consumed copious amounts of alcohol.

That evening as Charlie was cooking yet another mess of rice and beans, each of the kids had to state what they had learned that day. I was tempted to shout out, “Go get a real job!” when I thought that maybe I actually had learned something. As one of my high school teachers, Bill Gillespie, said at commencement, “Some day you will come back to show us your trophies and your scars, and we'll be glad to see you.” He meant that we struggle for ourselves, for our own dignity, not for the homecoming. It's just the rock face and you—everyone else is standing too far away to notice.

## FOR INQUIRIES, ORDERS, OR MORE INFORMATION

### CooksIllustrated.com

At CooksIllustrated.com, you can order books and subscriptions, sign up for our free e-newsletter, or renew your magazine subscription. Join the website and gain access to 22 years of *Cook's Illustrated* recipes, equipment tests, and ingredient tastings, as well as companion videos for every recipe in this issue.

### COOKBOOKS

We sell more than 50 cookbooks by the editors of *Cook's Illustrated*, including *The Cook's Illustrated Cookbook* and *The Science of Good Cooking*. To order, visit our bookstore at CooksIllustrated.com/bookstore.

### COOK'S ILLUSTRATED MAGAZINE

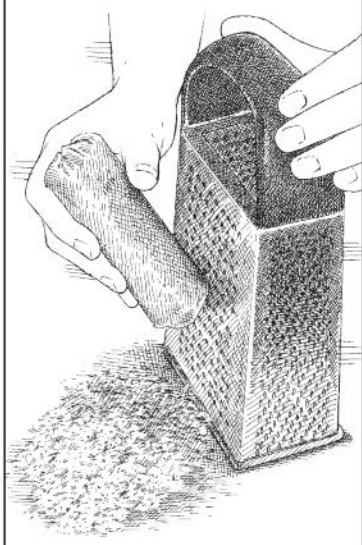
*Cook's Illustrated* magazine (ISSN 1068-2821), number 136, is published bimonthly by Boston Common Press Limited Partnership, 17 Station St., Brookline, MA 02445. Copyright 2015 Boston Common Press Limited Partnership. Periodicals postage paid at Boston, MA, and additional mailing offices, USPS #012487. Publications Mail Agreement No. 40020778. Return undeliverable Canadian addresses to P.O. Box 875, Station A, Windsor, ON N9A 6P2. POSTMASTER: Send address changes to *Cook's Illustrated*, P.O. Box 6018, Harlan, IA 51593-1518. For subscription and gift subscription orders, subscription inquiries, or change of address notices, visit AmericasTestKitchen.com/support, call 800-526-8442 in the U.S. or 515-248-7684 from outside the U.S., or write to us at *Cook's Illustrated*, P.O. 6018, Harlan, IA 51593-1518.

**FOR LIST RENTAL INFORMATION** Contact Specialists Marketing Services, Inc., 777 Terrace Ave., 4th Floor, Hasbrouck Heights, NJ 07604; phone: 201-865-5800.

**EDITORIAL OFFICE** 17 Station St., Brookline, MA 02445; 617-232-1000; fax: 617-232-1572. For subscription inquiries, visit AmericasTestKitchen.com/support or call 800-526-8442.

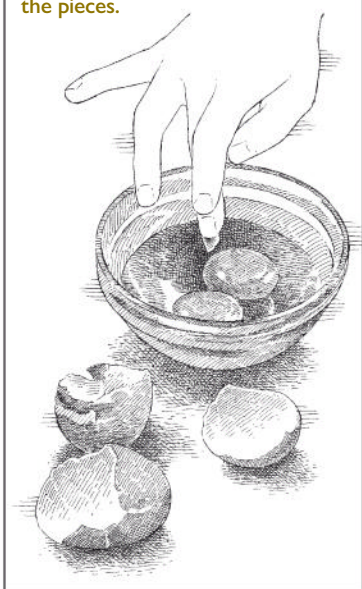
### A Grate Idea for Almond Paste

Pat Wood of Broomfield, Colo., has found that stiff almond paste is difficult to incorporate into other ingredients, even if you crumble it. To break it up even more, she shreds it into fine pieces on a box grater.



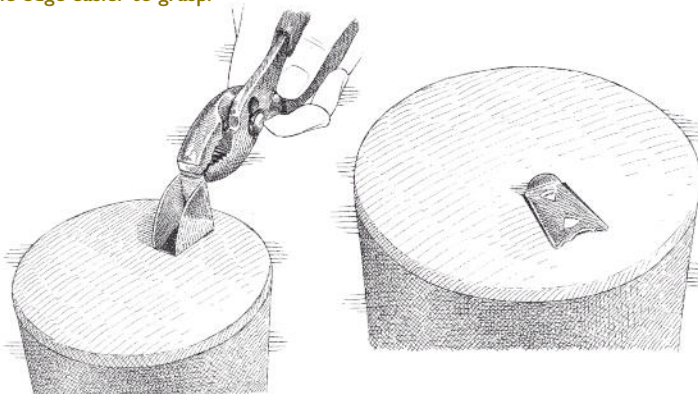
### Removing Eggshell Bits

Bits of broken eggshell can be hard to remove from a bowl of cracked eggs. Franklin English of Atlanta, Ga., suggests wetting two fingers. Because the water molecules naturally cling to the fingers and the shells, the water acts as a weak glue that makes it easy to pick out the pieces.



### Pulling Up the Tab

The metal tab of a salt container lies flat against the top, which makes it hard to grab when it's time to refill the saltshaker. Miriam Hartman of Pasadena, Calif., suggests bending back the top of the tab with a pair of pliers to make the edge easier to grasp.



### Getting Out the Last Drop

Lucy Shapiro of Gouldsboro, Maine, doesn't like to waste a drop of honey or syrup, so when the bottle is nearly empty, she sets it upside down inside a wide-mouthed funnel over a measuring cup to drain. The sticky substance can then be easily scraped out of the measuring cup with a rubber spatula.



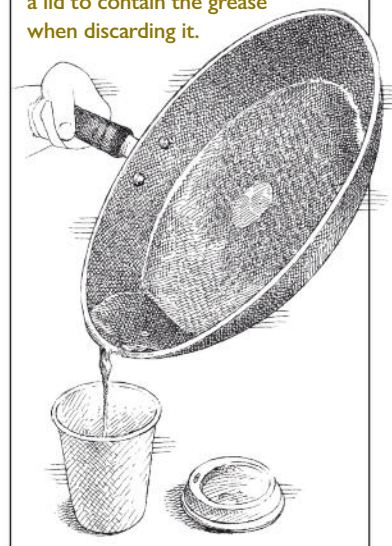
### Good Goodie "Bag"

When giving family and friends baked goods to take home, Cheryl Herbert of Plainfield, N.J., packs them in sturdy produce clamshell containers that she's saved.



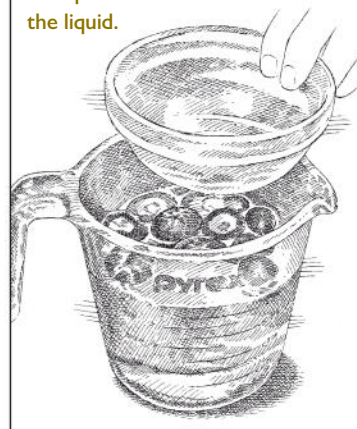
### Cool Container for Bacon Grease

Many cooks pour bacon grease into a lidded container, such as an old tin can, to let it cool before disposing of it or storing it, but the hot grease makes the metal container too hot to handle. Matt Donnelly of Los Angeles, Calif., instead uses an insulated disposable coffee cup with a lid to contain the grease when discarding it.



### Keeping Dried Mushrooms Submerged

When rehydrating in a bowl of water, dried mushrooms tend to float on the surface. Chuck Nider of Columbus, Ohio, has a trick for keeping them submerged: He puts the mushrooms in a liquid measuring cup (a 2-cup measure works well), adds water, and nests a small bowl inside to press them into the liquid. The rim of the bowl rests on the rim of the measuring cup, preventing it from floating in the water, while its rounded base pushes the mushrooms into the liquid.



**SEND US YOUR TIPS** We will provide a complimentary one-year subscription for each tip we print. Send your tip, name, address, and daytime telephone number to Quick Tips, *Cook's Illustrated*, P.O. Box 470589, Brookline, MA 02447, or to [QuickTips@AmericasTestKitchen.com](mailto:QuickTips@AmericasTestKitchen.com).

ILLUSTRATION: JOHN BURGONE

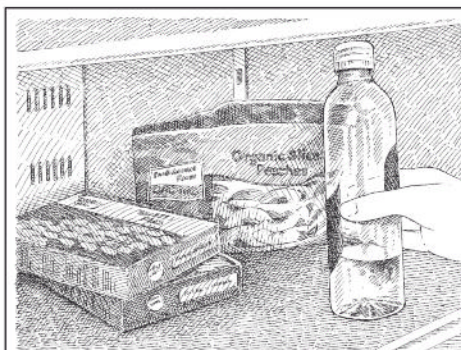
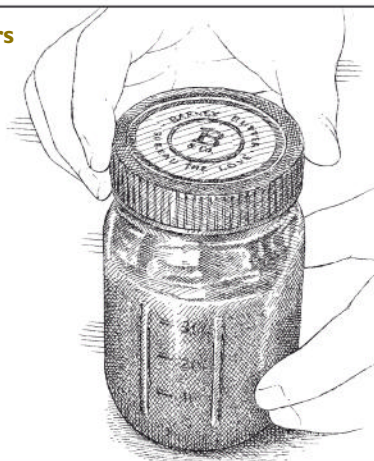


### A Key to Opening Tins Quickly

To pop the covers off metal tins with interlocking lids, such as those used for oatmeal, loose tea, and cocoa, Sharon Hladky of Midlothian, Va., keeps a paint key in her utensil drawer. Its flat edge easily slips under the container's top so that she can pry it off.

### Recycling Lids for Mason Jars

Mary Zoll of Carlisle, Mass., covers her Mason jars with their two-part metal lids only when she's canning. If she's simply using the jars to store leftovers, she employs plastic lids from empty condiment jars like those from mayonnaise or peanut butter. She tests them for size and when she finds one that screws tightly onto a standard-mouth jar, she cleans it and keeps it handy.

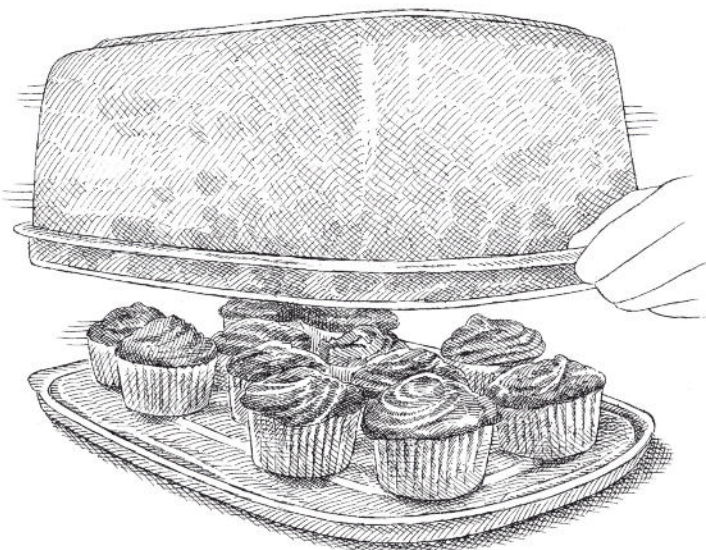


### Ice for Water Bottles

It can be difficult to cram ice cubes into water bottles, so Lisa Quentin of Randolph, N.J., adds a small amount of water to the bottle and stores it in the freezer. When she's ready to use the bottle, the ice is already built in.

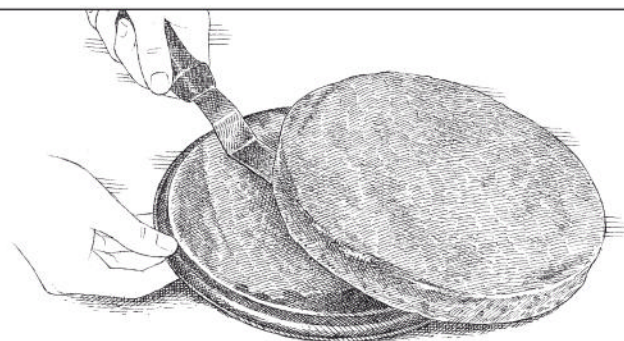
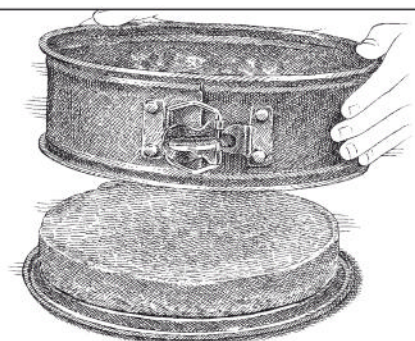
### Clean Cupcake Carrier

Expanding on our recent tip about transporting a single cupcake in an upside-down deli container (which also allows you to pick up the cupcake without smearing the frosting), Marni Fyelling of Hoboken, N.J., devised a way to transport a whole batch: She flips a plastic storage container upside down, places the cupcakes on the lid, and then snaps the container on top.



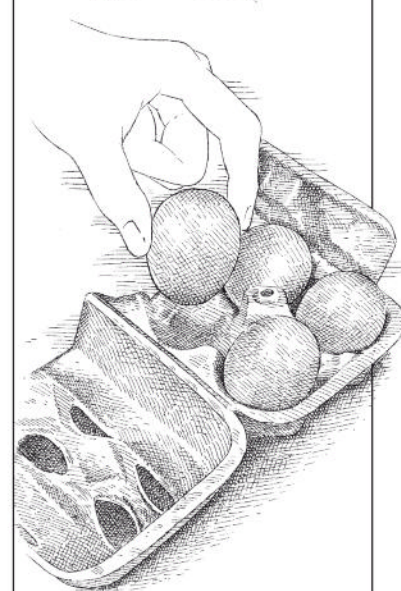
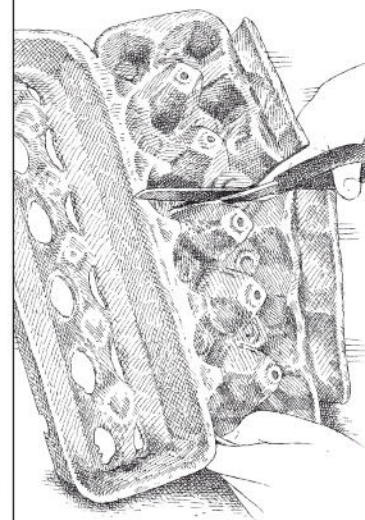
### A New Way to Make Fudge

Rather than fashioning a parchment sling to prevent homemade fudge from sticking to a traditional baking pan, Amy Baranek of Randolph, Mass., uses a springform pan. After removing the sides, she slides an offset spatula under the prepared fudge to pop it onto a cutting board. (To create square pieces for serving, simply trim the rounded edges.)



### Egg (Space) Saver

Wendy Fiero of Stuarts Draft, Va., often buys a new carton of eggs before she's completely finished with last week's dozen. So that she doesn't have to store two whole containers in her refrigerator, she cuts the older carton to hold just the remaining few eggs.



# Great Pan-Seared Flank Steak

Flank steak has it all: rich, beefy flavor; lean meat; and a reasonable price tag. Its one downfall? It only seems to work on the grill.

➤ BY ANDREA GEARY ⇐

In a perfect world, cooking a flank steak would be as simple as throwing it into a hot pan and searing it on each side. The outside would be crusty and brown by the time the inside was cooked to a rosy, even medium. But in the real world, flank steak can be too long to squeeze into a 12-inch skillet, so its ends reach up the sloped sides, making it awkward to cook. Plus, it's made up of long muscle fibers that contract when heated, causing the steak to buckle and therefore brown unevenly. The long muscle fibers also shrink unevenly as the meat cooks, so one end becomes thicker than the other. This means that the steak can turn out rare at the thick end and medium-well at the thin end. To top it off, the prolonged sear causes the meat just beneath the exterior to overcook and turn gray.

Moving outside to the grill solves most of these problems: There's no skillet to squeeze into (or smoke alarm to set off), and the more intense heat browns the steak better, even if it warps a bit. The uneven cooking and gray layer persist, but most cooks accept such imperfections as the price they pay for a quick grilled dinner.

But I wanted a year-round way to cook this beefy, lean steak—and a tolerance of imperfection is not among my more notable qualities. I was determined to find a reliable indoor method for producing a well-browned flank steak that was cooked medium throughout. (We like loose-textured, wide-fibered steaks like flank cooked to medium because at this degree of doneness the fibers shrink a bit more, which translates to greater tenderness.)

## Thinking Inside the Box

Hoping to limit smoke and spatter, I decided to try cooking the steak in the oven. To get any crust development, the meat was going to have to sit flat on a very hot, broad surface. But, alas, broiling the steak on a rimmed baking sheet was a failure. As it slowly heated up, moisture beaded on the wide,



To prevent the meat from buckling and therefore browning unevenly, we flip it frequently during searing. We slice the steaks before serving.

flat surface of the meat, inhibiting browning and leaving me with a gray steak that tasted steamed.

If I wanted that flavorful brown crust, I was going to have to use the direct heat of the stovetop. I started by dividing the steak into quarters. It was an unconventional move, but I had two reasons: First, doing so helped the steak fit neatly into the skillet. Second, it meant that I could remove the individual steaks from the skillet as they finished cooking, so they would all be cooked to a perfect medium.

I heated 2 tablespoons of oil in a skillet over medium-high heat until it was just smoking and added the steaks. Thinking that minimal interference would yield the best sear, I resolved to wait 3 minutes before moving them. The steaks buckled, though not as severely as the full steak had, and I hoped the warping would be reversed when I flipped them. Unfortunately, the damage was irreversible. The first sear had set a concave shape, so the steaks browned only around the edge of one side and only in the middle of the other.

I removed the two thinner steaks from the skillet

after about 8 minutes when they reached 125 degrees. The thicker steaks took about 4 minutes longer. After resting, they were all cooked to medium, but there was a sizable band of gray, overcooked meat around the edges, and the browning—though better than my oven attempts—was still not up to par. As I wiped up the splatter on the stove, I knew there had to be a better way.

## A Hybrid Approach

Cutting the steak into quarters gave me better control of the internal temperature of the meat and enabled me to fit it all in the pan, so I'd stick with that, but I had to reconsider the cooking method. Perhaps I had been hasty in eliminating the oven as a possibility.

One of the best methods for cooking thick steaks is the test kitchen's hybrid method that involves heating them gently in a 275-degree oven until they approach the perfect internal temperature and then transferring them to a hot skillet on the stovetop to brown. The oven step accomplishes three things: First, the precooked meat doesn't cool down a hot pan as drastically as a room-temperature steak would, so browning starts almost immediately. Second, some of the

steak's surface moisture evaporates in the oven, so there's less to be converted to steam before browning can begin. Third, this accelerated browning means that the steak doesn't have to spend much time in the skillet, so the meat just below the crust doesn't overcook. There's also less time for splatter and smoke.

It's the best way to cook uniformly thick, hefty steaks like rib eyes or strip steaks, but would flank steak's irregular thinness be suited to this treatment? To find out, I divided my steak into quarters and seasoned them with salt. I also sprinkled on a teaspoon of sugar to assist in browning when the time came. I placed the meat on a wire rack set in a rimmed baking sheet and baked it in a 275-degree oven until the thickest steak reached 120 degrees, about 20 minutes. Then I seared the steaks in a hot skillet.

This time I was not as restrained about flipping the steaks. Reasoning that the buckling was caused not so much by the tightening of the fibers on each side of the steak as by the *unequal* tightening of those fibers, I flipped the steaks every minute to keep the surface tightening on each side pretty much



### See Our Method

Video available free for 4 months at [CooksIllustrated.com/oct15](https://cooksillustrated.com/oct15).

## Fitting a Rectangle into a Circle

Squeezing a long flank steak into a 12-inch skillet usually means that the ends of the steak creep up the sloped sides of the pan, all but guaranteeing unevenly cooked meat. Cutting our flank steak into four pieces and warming it in the oven before searing (where it shrinks significantly) helps it fit neatly. Smaller pieces also have shorter muscle fibers, so the steaks don't buckle as much during searing.



### TIGHT SQUEEZE

A 1 1/2-pound flank steak is simply too big for a 12-inch skillet.

equal. It worked. This time the steaks were much flatter, which meant that more of the meat stayed in contact with the cooking surface. This, combined with the caramelizing effect of the sugar, yielded the best browning thus far.

But the doneness varied. The thicker ends were cooked to a perfect medium, but the thinner ends were closer to medium-well.

During my next test I was hypervigilant, repeatedly temping each steak and removing each from the oven as it reached 120 degrees. But such frequent temperature taking meant opening the oven several times, and every time it lost heat and had little time to recover before I opened it again. The thinnest steak was done in 20 minutes, but it took almost 50 minutes before the thickest steak reached the target temperature, which was a lot of fuss.

And yet these steaks won me over. They browned beautifully in the skillet, and I was happy with their juicy, rosy interiors and lack of overdone gray meat just below the surface. Was there a hassle-free way to get all the meat to the target temperature at once?

### How Low Can You Go?

It occurred to me that high-heat methods like grilling or searing in a skillet had resulted in the biggest doneness differential between the thick and thin steaks. Could I close the gap by using a very low-temperature oven?

I reduced the oven temperature to 250 degrees and inserted a probe thermometer into one of the thicker steaks. When the thermometer registered 120 degrees (since I wasn't opening the oven, this took only about 30 minutes), I transferred all the steaks to a skillet to brown. Sure enough, these steaks were closer in terms of doneness, but the thinner steaks were still a bit overcooked.

Lowering the oven temperature even more did the trick. Steaks that were warmed for 35 minutes in a 225-degree oven registered between 120 and 130 degrees, so that after searing and resting they were a perfect rosy medium. (See "Getting Thick and Thin Ends More Evenly Cooked.")

Flank steaks this great deserved a bit of embellishment. I mixed up some flavorful compound butters and slathered them onto the warm steaks to melt over them as they rested. I sliced the steaks thinly across the grain for maximum tenderness and dotted them with just a bit more butter. Imperfection is no longer part of the flank steak bargain.

### PAN-SEARED FLANK STEAK WITH MUSTARD-CHIVE BUTTER

SERVES 4 TO 6

Open the oven as infrequently as possible in step 1. If the meat is not yet up to temperature, wait at least 5 minutes before taking its temperature again. Slice the steak as thin as possible against the grain (for more information see "Making Flank Steak More Tender" on page 31). For our free recipes for Pan-Seared Flank Steak with Garlic-Anchovy Butter and Pan-Seared Flank Steak with Sriracha-Lime Butter, go to [CooksIllustrated.com/oct15](http://CooksIllustrated.com/oct15).

- 1 (1 1/2- to 1 3/4-pound) flank steak, trimmed
- 2 teaspoons kosher salt
- 1 teaspoon sugar
- 1/2 teaspoon pepper
- 3 tablespoons unsalted butter, softened

- 3 tablespoons chopped fresh chives
- 2 teaspoons Dijon mustard
- 1/2 teaspoon grated lemon zest plus 1 teaspoon juice
- 2 tablespoons vegetable oil

1. Adjust oven rack to middle position and heat oven to 225 degrees. Pat steak dry with paper towels. Cut steak in half lengthwise. Cut each piece in half crosswise to create 4 steaks. Combine salt, sugar, and pepper in small bowl. Sprinkle half of salt mixture on 1 side of steaks and press gently to adhere. Flip steaks and repeat with remaining salt mixture. Place steaks on wire rack set in rimmed baking sheet; transfer sheet to oven. Cook until thermometer inserted through side into center of thickest steak registers 120 degrees, 30 to 40 minutes.

2. Meanwhile, combine butter, 1 tablespoon chives, mustard, and lemon zest and juice in small bowl.

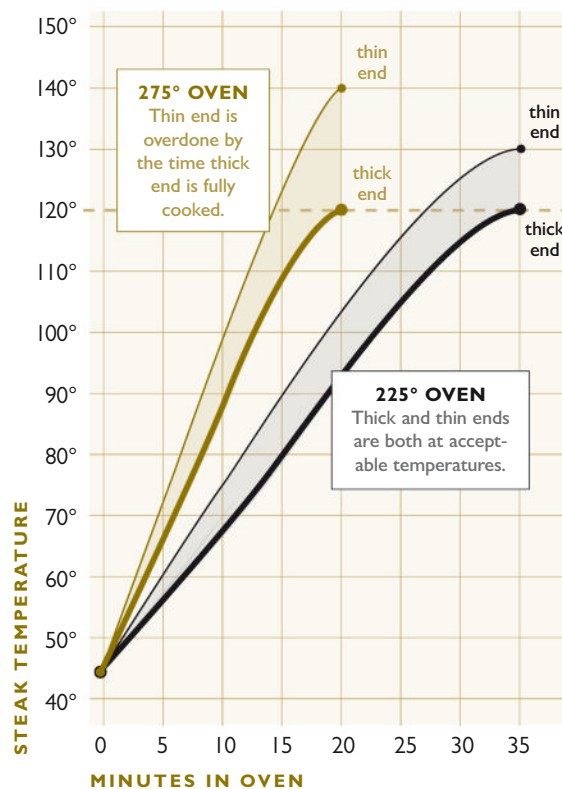
3. Heat oil in 12-inch skillet over medium-high heat until just smoking. Sear steaks, flipping every 1 minute, until brown crust forms on both sides, 4 minutes total. (Do not move steaks between flips.) Return steaks to wire rack and let rest for 10 minutes.

4. Transfer steaks to cutting board with grain running from left to right. Spread 1 1/2 teaspoons butter mixture on top of each steak. Slice steak as thin as possible against grain. Transfer sliced steak to warm platter, dot with remaining butter mixture, sprinkle with remaining 2 tablespoons chives, and serve.

### SCIENCE Getting Thick and Thin Ends More Evenly Cooked

Our usual method for cooking steaks is to preheat them in a 275-degree oven and then transfer them to the stovetop to sear their outsides. But when we adapted this technique to flank steak, we ran into a problem: By the time the thick end of the steak reached the target temperature of 120 degrees, the thin end overcooked. The solution? Turn down the oven: At 225 degrees, both the thick and thin ends stay within an acceptable temperature range.

Here's why: The increase in the internal temperature of the steaks is not constant over the course of their time in the oven. Initially, the steaks heat up pretty rapidly, and then they slow as their internal temperature approaches that of the oven. But here's the interesting thing: The rate at which the temperature of the thin steaks and the thick steaks slows is different because their mass is different. The thin steaks heat more quickly, but their rate of increase starts to level off as it approaches the target temperature of 120 degrees. That gives the thicker steaks time to catch up. The lower the oven temperature, the more pronounced this leveling off effect is.



# Ultimate Flaky Biscuits

For layered, ultraflaky biscuits, you've got to know when to fold them and when to hold them.

➤ BY ANDREW JANJIGIAN ◀

From the enormous soft and fluffy Southern cat head to the simple drop, I love biscuits of all kinds.

But my current obsession is a specimen I've recently found in several restaurants. It's crisp and crunchy on the outside but tender and light as air inside, with flaky strata that peel apart like sheets of buttery paper in a way that rivals a croissant. No, this is not an everyday biscuit; it's an ethereal, once-in-a-while treat rich enough that there's no need to spread on any extra butter, just a slathering of jam, if that. But when I tried recipes billed as "rich and tender flaky biscuits," very few lived up to the promise, and those that did required a lengthy process of folding the dough and letting it rest that was as much work as making croissants. I set out to see what I could do to produce my ideal flaky biscuit with considerably less fuss.

## A Flaky Foundation

Despite the failures, those early tests did help sort out a few things. First, I'd use only butter rather than a mixture of butter and shortening. Shortening lacks flavor, and I also found that it inhibited the formation of distinct layers. As in pie crusts, leaving distinct pieces of fat in the dough (what many recipes refer to as "pea-size" pieces) is key to producing flakiness. As the biscuits cook, the bits of fat melt into the dough, leaving small voids. Then, as the water in the dough turns to steam, it expands these gaps and creates layers. The problem with shortening is that it has a soft texture and tends to combine with the flour rather than stay distinct like butter. Most recipes I found called for 2 to 4 tablespoons of fat per cup of flour; I suspected that I could squeeze in more. I settled on 16 tablespoons butter to 3 cups flour—a little more than 5 tablespoons per cup.

As for the type of flour, unlike ultratender, fluffy Southern-style biscuits that demand a specialty low-protein flour (generally 7 to 8 percent) like



Cutting biscuits into squares versus the usual rounds eliminates the need for rerolling scrap dough, which inevitably produces tough results.

White Lily, my early tests confirmed that flaky biscuits are better off made with all-purpose flour. This is because all-purpose flour has a little more protein (10 to 12 percent), and when combined with water, the protein in flour produces gluten. The more protein, the more gluten, which translates to a biscuit dough with more strength that can bake up with distinct, structured layers rather than cakey and fluffy. I tried bread flour (which is closer to 13 percent protein) but found that it created an overly strong gluten network that produced tough biscuits. The best results came from using King Arthur all-purpose flour, which is 12 percent protein.

I also determined that I'd use buttermilk rather than milk for its distinctive tang, a touch of sugar for complexity, a little baking soda to enhance browning and add some lift, and, finally, baking powder for additional lift. As for shaping, I settled on square biscuits. Round biscuits were pretty, but they left too much scrap dough and rerolling those scraps produced biscuits that were tough. Shaping the dough

into a square slab and then cutting that into squared-off biscuits was fast and meant no rerolling—and no waste.

## Cut the Fat

I moved on to the heart of the matter: mixing and shaping. Many biscuit recipes require that you spend a lot of effort getting the butter into small, even, pea-size pieces by cutting it into the dry ingredients using a dough cutter, a pair of knives, a food processor, or your hands. The problem with most of these approaches is that it's far too easy to over- or underdo it, both of which hamper flakiness. I found that the most consistent method was to grate the butter using the large holes of a box grater, a trick I picked up from our recipe for Blueberry Scones (July/August 2007).

Of course, the effort is moot if these shreds of butter soften during mixing and shaping. To avoid that, I froze the butter for 30 minutes before grating it. And to get around the awkwardness of grating the stubs, I saved the last tablespoon of each stick to melt and brush on the tops of the biscuits just before baking them, which would improve crisping and browning.

## Between the Folds

The grated butter helped create some layering but not nearly what I was after. In a pie dough, leaving the butter in small pieces is sufficient to get the right flaky effect, but that's because pie dough contains far less liquid (and far more butter) and is rolled out thin, a pair of factors that inherently smears the butter into thin sheets among floury layers. But in a wet, minimally rolled-out slab of biscuit dough, the butter pieces just float randomly in the mixture like raisins in a muffin batter. And that's where folding comes in. This process starts with rolling out the dough into a large, thin rectangle and then folding it into thirds like a letter. You then press the dough together to seal the package tightly, turn it 90 degrees, and repeat. The special thing about folding dough is that the technique works by multiplication, not addition. Each fold doesn't simply give you one more layer; it creates an exponentially greater number of layers because it's a trifold every single time, not a single fold.

Folding my biscuit dough, at least in the early



▶ See the Flakiness Happen  
Video available free for 4 months  
at [CooksIllustrated.com/oct15](https://www.cooksillustrated.com/oct15)

PHOTOGRAPHY: CARL TREMBLAY

stages, was a messy affair: It started out shaggy and crumbly—anything but a cohesive mass—and it seemed like I wasn’t really doing anything useful. But slowly and surely, the dry bits and the wet bits came together; by the fourth fold, the process was pretty tidy. The interesting thing was, I found in subsequent tests that the messier—and less mixed—the dough was in the beginning, the better. Even in those first few messy “folds,” the slivers of butter were getting pressed and stretched into thinner and thinner sheets among clumps of wet and dry dough. If I mixed the dough in the bowl to the point where it was uniform before I folded it (which is what most recipes call for) or if I added more liquid to help bring the dough together, I ended up with layers that were less defined.

Some recipes call for letting the dough rest for as long as 30 minutes after every set of folds. This is because with each set the gluten in the dough gets stronger, making the dough increasingly harder to roll out. But because my dough wasn’t cohesive for the first few sets of folds, gluten didn’t develop at the same pace, and I could make five folds without any resting.

When I cut this dough into squares, each biscuit looked like the side view of a book, with layers that pulled away from one another dramatically during baking—just the effect I’d hoped for. There was only one problem: Most of the biscuits were coming out of the oven lopsided. In fact, of the nine biscuits the recipe produced, only the one cut from the center of the dough came out square and level.

I realized that the edges of the dough slab were being compressed during the rolling and folding process. Trimming away ¼ inch from the perimeter of the dough before cutting the biscuits took care of that, but the biscuits were still a bit wonky. By the fifth fold, the layers of dough were taut like stretched rubber bands. Once the layers started to separate in the oven, this tension caused them to slip and slide in different directions, leaving the biscuits lopsided. A single 30-minute rest in the refrigerator—a far cry

from the multiple rests other recipes required—gave them time to relax. With that, I had buttery, super-flaky biscuits that consistently rose up tall and true.

## FLAKY BUTTERMILK BISCUITS

MAKES 9 BISCUITS

We prefer King Arthur all-purpose flour for this recipe, but other brands will work. Use sticks of butter. In hot or humid environments, chill the flour mixture, grater, and work bowls before use. The dough will start out very crumbly and dry in pockets but will be smooth by the end of the folding process; do not be tempted to add extra buttermilk. Flour the counter and the top of the dough as needed to prevent sticking, but be careful not to incorporate large pockets of flour into the dough when folding.

- 3 cups (15 ounces) King Arthur all-purpose flour
- 2 tablespoons sugar
- 4 teaspoons baking powder
- ½ teaspoon baking soda
- 1½ teaspoons salt
- 16 tablespoons (2 sticks) unsalted butter, frozen for 30 minutes
- 1¼ cups buttermilk, chilled

1. Line rimmed baking sheet with parchment paper and set aside. Whisk flour, sugar, baking powder, baking soda, and salt together in large bowl. Coat sticks of butter in flour mixture, then grate 7 tablespoons from each stick on large holes of box grater directly into flour mixture. Toss gently to combine. Set aside remaining 2 tablespoons butter.

2. Add buttermilk to flour mixture and fold with spatula until just combined (dough will look dry). Transfer dough to liberally floured counter. Dust surface of dough with flour; using your floured hands, press dough into rough 7-inch square.

3. Roll dough into 12 by 9-inch rectangle with short side parallel to edge of counter. Starting at bottom of dough, fold into thirds like business

## To Avoid Slumps, Relax and Trim

Folding the dough multiple times creates great layering—but it also compresses the edges and causes tension that makes the layers separate and slide in different directions in the oven. Our fix: We let the dough relax for 30 minutes in the fridge after folding and then trim away the compressed edges before cutting the dough into individual biscuits.



### PREVENTABLE FLAW

Slumping is easily fixed by letting the dough rest.

letter, using bench scraper or metal spatula to release dough from counter. Press top of dough firmly to seal folds. Turn dough 90 degrees clockwise. Repeat rolling into 12 by 9-inch rectangle, folding into thirds, and turning clockwise 4 more times, for total of 5 sets of folds. After last set of folds, roll dough into 8½-inch square about 1 inch thick. Transfer dough to prepared sheet, cover with plastic wrap, and refrigerate for 30 minutes. Adjust oven rack to upper-middle position and heat oven to 400 degrees.

4. Transfer dough to lightly floured cutting board. Using sharp, floured chef’s knife, trim ¼ inch of dough from each side of square and discard. Cut remaining dough into 9 squares, flouring knife after each cut. Arrange biscuits at least 1 inch apart on sheet. Melt reserved butter; brush tops of biscuits with melted butter.

5. Bake until tops are golden brown, 22 to 25 minutes, rotating sheet halfway through baking. Transfer biscuits to wire rack and let cool for 15 minutes before serving.

## STEP BY STEP | A SHAGGY DOUGH STORY

What’s up with this scraggly looking dough? It allows the slivers of butter to be pressed and stretched into thinner and thinner sheets among the wet and dry clumps, ultimately creating more layers. Trust us: By the last fold, it will smooth out.



### REALLY SHAGGY

The dough barely gets mixed before being transferred to the counter.



### STILL SHAGGY

After the first fold, the dough remains very dry and crumbly.



### GETTING LESS SHAGGY

By the third fold, the dough is starting to smooth out and look more like typical dough.



### MOSTLY SMOOTH

After the fourth fold, the dough is only a little rough around the edges; the folds look distinct.



### ALL SQUARED AWAY

After the fifth fold, the dough is rolled out, rests for 30 minutes, and is cut into squares for baking.

# Spanish Braised Chicken

The rich flavor and lush consistency of this classic dish from Spain's Castilla–La Mancha region depend on a sherry-based sauce thickened with ground almonds and egg yolks.

➤ BY ADAM RIED ➤

At a Spanish restaurant not long ago, a chicken dish called *pollo en pepitoria* caught my attention. The meat, which had been braised until it was incredibly tender, arrived covered in a creamy, fragrant, subtly coarse sauce that featured three of the cuisine's star ingredients: sherry, saffron, and almonds. Scattered over the chicken were chopped egg whites and fresh parsley. The flavors and lush consistency were so appealing that I sopped up the extra sauce on the plate with pieces of crusty bread. I then hurried home to find recipes so that I could make the dish myself.

I quickly learned that the dish, which some sources note is a great specialty of the saffron-producing Castilla–La Mancha region of Spain, gets its creamy-but-not-quite-smooth consistency from a *picada*. This nut-based paste seasoned with garlic and herbs or spices is commonly used in Spanish cuisine to thicken soups, stews, and sauces. Interestingly, the *picada* for *pollo en pepitoria* is made even more rich by mashing hard-cooked egg yolks with the nuts. That explained the chopped egg white garnish.

But as stunning as this dish was in the restaurant, the versions I tried were not. Every one had richness in spades, but the creamy sauce usually came off as cloying and even a bit one-dimensional. With some work, though, I was sure I could produce a luxurious, complex-flavored sauce that was as rich and satisfying as it was balanced.

## The Bright Side

Most Spanish cookbook authors note that the dish is traditionally made with a whole chicken (in



Tomatoes and lemon juice balance the richness of the almonds and hard-cooked egg yolks in our sauce. We garnish the dish with chopped egg white.

those cases, it's called *gallina en pepitoria*), but plenty of modern recipes call for chicken parts—particularly thighs. The dark meat is especially nice for braising because it contains abundant connective tissue, which melts into gelatin as the chicken cooks, leaving the meat nicely tender. In fact, when we braise chicken thighs in the test kitchen, we maximize that texture by cooking them slowly and not just until they hit their target

doneness temperature of 175 degrees, but well beyond that to 195 degrees; at that point, they're not just tender but downright silky. (For more information, see "Overcook Your Chicken Thighs—and Do It Slowly.")

The cooking method starts as does any classic braise: with browning the meat. I chose skin-on thighs, since the rendered fat from the skin would contribute big savory flavor to the dish. I would remove and discard the skin before serving since a long simmer makes chicken skin soggy.

From there, I softened a chopped onion with a couple of minced garlic cloves and salt in the rendered fat and saw to the sherry. We avoid "cooking sherry," which contains salt and preservatives that distract from the wine's nutty flavor. Sweet sherries, such as Pedro Ximénez, and cream sherries would also taste cloying in a savory braise. Instead, I reached for a dry, light-bodied variety called fino that's equally widely available. I poured a generous  $\frac{2}{3}$  cup into the pan, scraped up the flavorful browned bits known as fond, added chicken broth and brought the pot up to a simmer, and placed the parcooked thighs in the liquid. I simmered the thighs with the lid on for the better part of an hour, by which point the meat just barely clung to the bone.

Then came the *picada*, which is made like a pesto: Nuts—almonds are most traditional—get blitzed in the blender with more garlic, a pair of hard-cooked egg yolks, and a pinch of saffron (a little goes a long way) until the mixture is as smooth as possible. After stirring the thick paste into the pan, you simmer everything for another few minutes to meld the flavors and thicken it further.

## Picada: A Nutty Thickener

Unlike stews, sauces, and stir-fries that are thickened with starches or dairy, many Spanish stews and braises get their rich, hearty body from a pesto-like nut-based thickener called a *picada*. The basic formula, which many sources claim dates back to at least the 13th or 14th century, includes finely ground almonds or hazelnuts (*picar* means "to chop") and seasonings like garlic, herbs, and spices. But many versions also contain toasted or fried bread or even hard-cooked egg yolks, as in the recipe here. The ingredients are traditionally pounded to a thick paste with a mortar and pestle (we use a blender for speed) and stirred into the pot toward the end of cooking so that it can lend body, richness, and flavor to the cooking liquid.

Almonds processed with garlic, saffron, and hard-cooked egg yolks add body and flavor to the braise.





**COOKING  
ONLY**

## SHOPPING Sherry

### What's What?

Sherry, a wine fortified with brandy, can be confusing to buy because it comes in a wide range of styles such as dry, sweet, cream, and "cooking." But for savory cooking purposes, stick with the dry kind. Sweet and cream sherries will taste overwhelmingly sweet when reduced in sauces, and cooking sherry, which has been treated with salt and preservatives to make it shelf-stable, can render a dish too salty.

### Which Can I Use?

Dry sherries come in a variety of sub-classifications that represent degrees of aging and fortification—from drier, lighter-bodied, and less expensive fino to nuttier, heavier, and pricier oloroso. We've found that it's fine to cook with an inexpensive fino, such as Taylor Dry Sherry (\$5.99 for 750 milliliters), but if you want a bottle that's as good to drink as it is to cook with, consider Lustau Palo Cortado Península Sherry (\$19.99 for 750 milliliters). —A.R.



**COOKING  
AND  
DRINKING**

To brighten the rich almond-egg sauce, I finished it with a spritz of fresh lemon juice, which turned out to be a good move, albeit too subtle. I couldn't add much more lemon juice before the sauce would turn distinctly citrusy, but tomatoes also contain acid and were worth trying. Unlike in Italian sauces, where they're often the focal point, tomatoes are sometimes introduced in Spanish sauces to complement other flavors. Going forward, I experimented with chopped and grated fresh and canned whole tomatoes. I found that a small can of whole peeled tomatoes, drained and chopped fine, offered the necessary brightness along with nice savory sweetness. While I was making flavor tweaks, I also added a bay leaf and a dash of cinnamon—elements I'd seen in a handful of published recipes—when I sautéed the garlic, which made the sauce just a bit more fragrant.

## The Grind

The sauce was just about there, but I had two quibbles with the almonds. Most recipes I found didn't call for toasting them, so I hadn't up until now, but not surprisingly this quick step noticeably deepened their flavor and, thus, the flavor of the sauce. The bigger issue was their texture; pepitoria is meant to have a rustic, slightly coarse consistency, but here the picada was too gritty to integrate well in the braising liquid. I tried simply buzzing the ingredients for longer in the blender, but even after 3 full minutes, they didn't break down sufficiently. I also tried replacing the nuts themselves with almond butter—an admittedly odd move that unfortunately did away with the sauce's pleasantly coarse texture.

I finally realized that the way to make a smoother picada was to treat it like soup and blend it with some of the braising liquid. The liquid not only saturated and smoothed out the dry nut mixture but also increased the volume of food in the blender jar, making it easier for the ingredients to engage the blade and process the picada more thoroughly. The resulting sauce was thick, creamy, and just shy of smooth—ideal for coating the moist chicken or swiping up with a piece of good crusty bread.

## SPANISH BRAISED CHICKEN WITH SHERRY AND SAFFRON (POLLO EN PEPITORIA)

SERVES 4

Any dry sherry, such as fino or Manzanilla, will work in this dish. Serve with crusty bread.

- 8 (5- to 7-ounce) bone-in chicken thighs,**  
trimmed
- Salt and pepper**
- 1 tablespoon extra-virgin olive oil**
- 1 onion, chopped fine**
- 3 garlic cloves, minced**
- 1 bay leaf**
- ¼ teaspoon ground cinnamon**
- ⅔ cup dry sherry**
- 1 cup chicken broth**
- 1 (14.5-ounce) can whole peeled tomatoes,**  
drained and chopped fine
- 2 hard-cooked large eggs, peeled and yolks and**  
whites separated
- ½ cup slivered blanched almonds, toasted**
- Pinch saffron threads, crumbled**
- 2 tablespoons chopped fresh parsley**
- 1½ teaspoons lemon juice**

1. Adjust oven rack to middle position and heat oven to 300 degrees.
2. Pat thighs dry with paper towels and season both sides of each with 1 teaspoon salt and ½ teaspoon pepper. Heat oil in 12-inch skillet over high heat until just smoking. Add thighs and brown on both sides, 10 to 12 minutes. Transfer thighs to large plate and pour off all but 2 teaspoons fat from skillet.
3. Return skillet to medium heat, add onion and ¼ teaspoon salt, and cook, stirring frequently, until just softened, about 3 minutes. Add 2 teaspoons garlic, bay leaf, and cinnamon and cook until fragrant, about 1 minute. Add sherry and cook, scraping up any browned bits, until sherry starts to thicken, about 2 minutes. Stir in broth and tomatoes and bring to simmer. Return thighs to skillet, cover, transfer to oven, and cook until chicken registers 195 degrees, 45 to 50 minutes. Transfer thighs to serving platter, remove and discard skin, and cover

## SCIENCE

## Overcook Your Chicken Thighs—and Do It Slowly

Unlike white meat, which dries out and toughens when overcooked, dark meat actually benefits from being cooked well beyond its doneness temperature (175 degrees). That's because dark meat contains twice as much collagen as white meat, and the longer the meat cooks, the more that collagen breaks down into gelatin, which coats the meat's protein fibers and makes it more moist and tender. (Dark meat also contains roughly twice as much fat, which coats the meat's proteins, and has a higher pH, which helps it retain moisture more effectively.) But it's also important to cook thighs low and slow so that they spend as much time as possible between 140 and 195 degrees—the temperature range in which collagen breaks down.

We proved the point by cooking two batches of chicken thighs to 195 degrees, one on the stovetop and one in a slower, gentler 300-degree oven. Whereas the stovetop-cooked thighs reached 195 degrees in about 25 minutes and were just moderately tender, the oven-cooked thighs lingered in that zone for nearly twice as long and were much more tender and pleasant to eat.



### FORK-TENDER

For ultratender results, we slowly cook the chicken in the oven until it reaches 195 degrees.

loosely with aluminum foil to keep warm. While thighs cook, finely chop egg whites.

4. Discard bay leaf. Transfer ¾ cup chicken cooking liquid, egg yolks, almonds, saffron, and remaining garlic to blender jar. Process until smooth, about 2 minutes, scraping down jar as needed. Return almond mixture to skillet. Add 1 tablespoon parsley and lemon juice; bring to simmer over medium heat. Simmer, whisking frequently, until thickened, 3 to 5 minutes. Season with salt and pepper to taste.

5. Pour sauce over chicken, sprinkle with remaining 1 tablespoon parsley and egg whites, and serve.

### Watch Every Step

Video available free for 4 months at [CooksofIllustrated.com/oct15](https://CooksofIllustrated.com/oct15)



A good meatball is tender enough to cut with a fork; sausage is inherently firm and springy. So is there any way to make a tender sausage meatball?

**L**ike lots of Italian American families, mine always gathered on Sundays at my grandmother's for a big spaghetti dinner. She made her version especially hearty by serving the pasta with meatballs as well as links of sweet Italian sausage, which were my favorite part. Their rich, ultrasavory flavor and distinct seasonings—fennel, oregano, and red pepper flakes—made the dish particularly satisfying.

Sausage is made by thoroughly blending and kneading meat, fat, and salt so that the meat's sticky proteins, called myosin, cross-link and bind together to create a strong network that gives the mixture its firm, springy texture. (To make links, the mixture is stuffed into a casing.)

A black and white photograph of a bowl of spaghetti topped with meatballs and a tomato-based sauce. A fork is visible on the right side of the bowl.

I combined the ingredients with my hands, shaped the meatballs, and roasted them on a wire rack set in a rimmed baking sheet—our preferred setup for developing flavorful browning without making a greasy mess of the stovetop. Then I briefly simmered them in a simple tomato sauce. But rather than discreetly tenderizing the meatballs, the panade popped up in distinct pasty nuggets—a result that was not only unappetizing but also ineffective since much of the sausage was unable to reap its tenderizing benefits and thus cooked up with its characteristic firm, dense texture.

seasoned with the herbs and spices typical of Italian sausage. The problem here was that seasoned ground pork didn't quite offer the rich juiciness that makes sausage so satisfying.

But why not combine the two? I mixed up another batch using equal parts sausage and ground pork and encouragingly found myself on the right track; though still firmer than I wanted, these meatballs were more tender than my sausage-only batch and had decent flavor and richness that I could surely improve down the line. For now, I needed to work on the distribution of the panade, which still appeared in doughy pockets.

Most meatball recipes call for mashing bread into milk with a fork to make the panade and then gently incorporating the meat, eggs, and seasonings by hand to avoid overworking the meat and developing any of that sausage-like firmness.

But with dense sausage already in the mix, combining by hand simply wasn't effective enough to incorporate the panade. I needed a more powerful method. The paddle of a stand mixer would surely whip

the meat mixture into a sticky paste, but what about a food processor? Its sharp blade would literally cut the panade into the meat—and I hoped I could use the staccato-like pulse button to avoid overmixing.

When we started testing, our sausage meatballs were dense and springy. We made close to 400 meatballs before landing on just the right combination of ingredients and mixing methods that produced the savory, juicy, fork-tender meatballs we wanted.

hand-mixing sausage with standard panade (bread-milk mixture)  
**BUT:** meatballs dense, with mushy pockets of bread

subbing less-dense ground pork for sausage  
**GOOD:** meatballs less dense  
**BUT:** lacking sausage's rich juiciness

combining sausage and ground pork  
**GOOD:** richer meatballs  
**BUT:** meat and panade not homogeneous

10

## DISCOVERY

### Don't Mix in Panade by Hand; Process It

To ensure that meatballs hold their shape, retain moisture, and stay tender during cooking, we typically combine the ground meat with a panade, a paste made of milk and bread.

The starches and liquid form a gel that coats and lubricates the meat proteins, preventing them from linking together into a tough matrix.

The problem: It's hard to thoroughly incorporate a panade into the meat when blending by hand, so we use a food processor. Its sharp blade literally cuts the paste into the meat so that the mixture is homogeneous.



**CLUMPY**  
By hand



**HOMOGENEOUS**  
In a food processor

But even with this modification the meatballs weren't truly tender, and there could be only two possible explanations: The food processor was overworking the meat, or the panade and ground pork weren't doing enough to tenderize the sausage. So I made changes that addressed both. Instead of adding both the pork and the sausage to the processor at the same time, which made the bowl very full and the components hard to blend thoroughly without lots of mixing, I processed just the ground pork with the panade and seasonings, removed half the mixture before blending in the sausage, and then gently folded in the reserved portion of pork by hand until everything was just combined. I also briefly soaked the ground pork in a solution of salt and baking soda, which changes the meat's protein structure and raises its pH, both of which enable the pork to better retain moisture. (Because a lot of commercial sausage already includes water and other additives, I refrained from pretreating it.) Next I swapped the milk in the panade for heavy cream, which provided a little extra fat to coat the meats' sticky proteins and thus reduced their ability to stick together. Finally, to ramp up the now-muted sausage flavor, I added back some of those classic seasonings:

coarsely ground fennel seeds, oregano, black pepper, and red pepper flakes.

All that was left was to fine-tune my tomato sauce. While the meatballs baked and the water boiled for the pasta, I sautéed minced garlic in a little olive oil and added both crushed tomatoes and tomato sauce for bright but smooth results. After a brief simmer, I tossed in fresh basil and added the meatballs, which soaked up the tangy sauce while lending it savory depth and richness.

I couldn't have been more pleased with my dish, which featured savory, well-seasoned, and tender sausage meatballs, or with my new-and-improved mixing method for making meatballs.

## SAUSAGE MEATBALLS AND SPAGHETTI

SERVES 4 TO 6

The fennel seeds can be coarsely ground in a spice grinder or using the bottom of a heavy skillet. Use a light touch when rolling the meatballs to prevent them from being dense. To portion the meatballs, use 2 tablespoons or a #30 scoop, loosely filled, of the pork mixture. Our preferred brands of crushed tomatoes are Tuttorosso and Muir Glen.

### Meatballs

- ½ teaspoon salt
- ¼ teaspoon baking soda
- 4 teaspoons water
- 12 ounces ground pork
- 2 slices hearty white sandwich bread, crusts removed, cut into ½-inch pieces
- ⅓ cup heavy cream
- ⅓ cup grated Parmesan cheese, plus extra for serving
- 2 large egg yolks
- 2 garlic cloves, minced
- 1 teaspoon fennel seeds, coarsely ground
- 1 teaspoon dried oregano
- 1 teaspoon pepper
- ½ teaspoon red pepper flakes
- 12 ounces sweet Italian sausage, casings removed and broken into 1-inch pieces

### Tomato Sauce

- 2 tablespoons extra-virgin olive oil
- 1 garlic clove, minced
- 1 (28-ounce) can crushed tomatoes
- 1 (15-ounce) can tomato sauce
- Salt
- 1 tablespoon minced fresh basil
- 1 pound spaghetti

**1. FOR THE MEATBALLS:** Adjust oven rack to upper-middle position and heat oven to 500 degrees. Set wire rack in aluminum foil-lined rimmed baking sheet and spray with vegetable oil spray.

**2.** Dissolve salt and baking soda in water in large bowl. Add pork, fold gently to combine, and let stand for 10 minutes.

**3.** Pulse bread, cream, Parmesan, egg yolks, garlic, fennel seeds, oregano, pepper, and pepper flakes in food processor until smooth paste forms, about 10 pulses, scraping down sides of bowl as needed. Add pork mixture (do not wash out bowl) and pulse until mixture is well combined, about 5 pulses.

**4.** Transfer half of pork mixture to now-empty large bowl. Add sausage to processor and pulse until just combined, 4 to 5 pulses. Transfer sausage-pork mixture to bowl with pork mixture. Using your hands, gently fold together until mixture is just combined.

**5.** With your wet hands, lightly shape mixture into 1 ¾-inch round meatballs (about 1 ounce each); you should have about 24 meatballs. Arrange meatballs, evenly spaced, on prepared wire rack and bake until browned, about 15 minutes, rotating sheet halfway through baking.

**6. FOR THE TOMATO SAUCE:** While meatballs bake, heat oil in Dutch oven over medium heat until shimmering. Add garlic and cook, stirring frequently, until fragrant, about 30 seconds. Stir in crushed tomatoes, tomato sauce, and ¼ teaspoon salt and bring to boil. Reduce heat and simmer gently until slightly thickened, about 10 minutes. Stir in basil and season with salt to taste.

**7.** Add meatballs to sauce and gently simmer, turning them occasionally, for 10 minutes. Cover and keep warm over low heat.

**8.** Bring 4 quarts water to boil in large pot. Add pasta and 1 tablespoon salt and cook, stirring often, until al dente. Reserve ½ cup cooking water, then drain pasta and return it to pot.

**9.** Add ½ cup sauce and ¼ cup reserved cooking water to pasta and toss to combine, adjusting consistency with remaining reserved cooking water as needed. Transfer pasta to large serving platter and top with meatballs and remaining sauce. Serve, passing extra Parmesan separately.

### ▶ Annie Makes the Meatballs

Video available free for 4 months at [CooksofIllustrated.com/oct15](http://CooksofIllustrated.com/oct15)



### SO WE TRIED ▶

mixing with food processor

**GOOD:** smooth, homogeneous

**BUT:** meatballs not truly tender and juicy

### AFTER THAT WE TRIED ▶

mixing in portion of pork mixture by hand

**GOOD:** more tenderness

**BUT:** still not juicy

### SO WE TRIED ▶

soaking pork in baking soda

**GOOD:** juicier meatballs

**BUT:** meat still a little sticky

### FINALLY WE TRIED ▶

subbing heavy cream for milk

**GOOD:**

extra fat = less sticky meat

### SUCCESS!

rich, savory, tender meatballs



# Introducing Fattoush

This Middle Eastern bread salad is hard to beat—if you get the textures right. We set out to preserve the crunch.

➤ BY LAN LAM ◀

Middle Eastern cooks have a knack for making the most of leftovers. Take flatbreads, a mainstay of their tables. These thin breads stale quickly, so leftovers—and dishes designed to use them up—abound. Such recipes are called *fatteh*, derived from the Arabic word *fatta*, meaning “to crumble.” Pita bread salad, or *fattoush*, is a prime example. The vibrant mix traditionally combines toasted, fried, or day-old bread with ripe tomatoes, cucumber, romaine lettuce, parsley, mint, scallions, and a potent green like watercress, all simply dressed with fresh lemon juice and extra-virgin olive oil.

Some cooks don’t mind (or even prefer) if the pita softens in the vegetable juices and vinaigrette, but I like the bread to have some crunch. My goal: a refreshing, easy-to-make salad boasting plenty of textural contrast.

## Picking Produce

I jumped right into my salad-making adventure by selecting the vegetables and herbs. Farm-fresh tomatoes and a crisp English cucumber, which we have found to have fewer seeds than the American kind, were mandatory. A handful of chopped scallions was also a given. After sampling various combinations of lettuce, greens, and herbs, I eliminated the traditional parsley and romaine. The former was too grassy; the latter, too watery. Mint, cilantro, and peppery arugula, on the other hand, offered plenty of fresh, summery flavor and made the cut.

## Seeking “Crunchy” Pita

It took a few tries to figure out an easy way to produce pita chips that would maintain most of their crunch even when mixed with vinaigrette and juicy vegetables.



A simple lemon and garlic vinaigrette is all that is needed to dress a mix of tomatoes, cucumber, arugula, herbs, and pita chips.

For the vinaigrette, I looked to a similar recipe, our Italian Bread Salad (July/August 2011), which is also based on bread, tomatoes, and cucumbers. Figuring that a similar dressing would be appropriate here, I whisked together 3 tablespoons of fresh lemon juice, ½ cup of extra-virgin olive oil, 1 small clove of minced garlic, and salt and pepper. (Sharply citrusy Middle Eastern sumac berries or *za’atar*, a

spice mix that features sumac, dried herbs, and salt, are often included as well, but I decided to skip these since they can be hard to find.)

On to the pita. Untreated stale bread wasn’t an option since it wasn’t crisp enough to start. Could it be as convenient as tearing open a bag of store-bought pita chips? No. Though they were supercrunchy straight from the bag, commercially made chips are low in fat and so became mushy within minutes of mixing the salad. I would have to make my own.

Forging ahead and following the test kitchen’s recipe for pita chips, I divided two rounds into wedges, lightly spritzed them with vegetable oil spray, and toasted them in a moderate oven. Once the brittle triangles cooled, I broke them into bite-size pieces and tossed them with my vegetables and vinaigrette. This try was a success in that it had the right combination and ratios of ingredients. However, the garlic flavor in the dressing was overwhelming even though I had used only a small clove. What’s more, the pita failed to stay crunchy.

To tame the garlic, I used a tried-and-true test kitchen trick and let it soak in the lemon juice for 10 minutes. The citric acid chemically changed the harsh-tasting allicin in the raw garlic into more mellow flavor compounds.

## Perfecting the Pita

As for the pita, one way to keep it crunchy would be to remove moisture from the vegetables. This meant seeding the tomatoes and cucumbers, salting them, and then letting their liquid drain away.



### DAY-OLD PITA: LIMP FROM THE START

We dismissed day-old bread from the get-go for its lack of crunch.



### STORE-BOUGHT CHIPS: MUSHY

Store-bought chips are low in fat and didn’t stand up to moisture.



### SPRITZED AND BAKED: SOGGY

A light misting of oil didn’t adequately waterproof the pita.



### DEEP-FRIED: TOO MUCH WORK

This option required 2 cups of oil and frying in multiple batches.

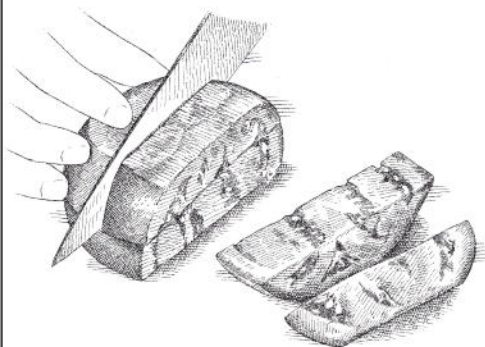


### OVEN-FRIED: CRUNCHY

Our method produces chips that are truly water-repellent.

## TECHNIQUE

## NEATER, TASTIER TOMATOES



Hold tomato on counter with stem end facing to one side and cut into  $\frac{3}{4}$ -inch-thick slices. By orienting tomato this way, seeds and flavorful jelly will stay intact when you cut. Stack slices in pairs and cut into  $\frac{3}{4}$ -inch strips; then cut strips cross-wise into  $\frac{3}{4}$ -inch pieces.

But aside from being time-consuming, the trouble with this approach was that as the salt pulled moisture out, it also caused the vegetables' cell walls to collapse slightly, softening their textures. What's more, the jelly that surrounds a tomato's seeds is its tastiest part—it contains three times more flavorful glutamates than the flesh. I was loath to toss it in the garbage.

Perhaps I needed an altogether different approach. Instead of removing moisture from the salad, what if I waterproofed the pita itself? Since oil repels water, my immediate thought was to deep-fry the pita, which would coat it in more oil than simply spritzing it. Sure enough, a batch of deep-fried pita chips retained its crunch even after being tossed with the vegetables and vinaigrette. What little liquid was absorbed flavored the chips and softened them enough to make them pleasantly chewy in spots and more fork-friendly. The drawbacks: The chips had to be fried in batches and in lots of oil—about 2 cups.

I was fairly certain that I could achieve this same effect in the oven if I could determine how much oil the pita absorbed during frying. To find out, I made a couple more batches, carefully measuring the amount of oil I began with and the amount that remained after frying. With a little math, I determined that two pita breads were soaking up about  $\frac{1}{4}$  cup of oil. I set a rack in a rimmed baking sheet and arranged my pitas (first splitting them into two thin rounds and halving them) on the rack, brushing them with half the oil destined for the dressing. Then I baked the pitas in a 375-degree oven until crisp. Once they were cool, I broke the pitas into rough pieces and added the herbs, vegetables, garlic-lemon juice mixture, and remaining oil. It was a good start: The oil prevented most of the chips from absorbing so much moisture that they turned to mush while still allowing them to pick up flavor from the lemony

dressing. But frustratingly, some of the chips were still soggy or oily.

I realized that I'd haphazardly arranged the pitas on the rack, with some smooth side up and others rough side up. The oil was sliding right off the smooth sides of the bread, whereas the craggy rough-side-up chips remained crisp because they had gripped the oil. I prepared another batch, this time making sure to arrange all my pita chips rough side up. I also reduced the oil to 3 tablespoons to eliminate any greasiness. These chips hit the mark: During baking, the oil spread and soaked all the way through the bread, giving the same effect as deep frying. When a colleague raved about the bright flavors and quipped that every last pita piece was "crunchy," I knew I had a winner.

### PITA BREAD SALAD WITH TOMATOES AND CUCUMBER (FATTOUSH)

SERVES 4

The success of this recipe depends on ripe, in-season tomatoes. A rasp-style grater makes quick work of turning the garlic into a paste. For our free recipe for Pita Bread Salad with Tomatoes and Cucumber (Fattoush) for Two, go to [CooksIllustrated.com/oct15](http://CooksIllustrated.com/oct15).

- 2 (8-inch) pita breads
- 7 tablespoons extra-virgin olive oil
- Salt and pepper
- 3 tablespoons lemon juice
- $\frac{1}{4}$  teaspoon garlic, minced to paste
- 1 pound tomatoes, cored and cut into  $\frac{3}{4}$ -inch pieces
- 1 English cucumber, peeled and sliced  $\frac{1}{8}$  inch thick
- 1 cup arugula, chopped coarse
- $\frac{1}{2}$  cup chopped fresh cilantro
- $\frac{1}{2}$  cup chopped fresh mint
- 4 scallions, sliced thin

1. Adjust oven rack to middle position and heat oven to 375 degrees. Using kitchen shears, cut around perimeter of each pita and separate into 2 thin rounds. Cut each round in half. Place pitas, smooth side down, on wire rack set in rimmed baking sheet. Brush 3 tablespoons oil over surface of pitas. (Pitas do not need to be uniformly coated. Oil will spread during baking.) Season with salt and pepper to taste. Bake until pitas are crisp and pale golden brown, 10 to 14 minutes. Set aside to cool. (Cooled pitas can be stored in zipper-lock bag for 24 hours.)

2. While pitas toast, whisk lemon juice, garlic, and  $\frac{1}{4}$  teaspoon salt together in small bowl. Let stand for 10 minutes.

3. Place tomatoes, cucumber, arugula, cilantro, mint, and scallions in large bowl. Break pitas into  $\frac{1}{2}$ -inch pieces and place in bowl with vegetables. Add lemon-garlic mixture and remaining  $\frac{1}{4}$  cup oil and toss to coat. Season with salt and pepper to taste. Serve immediately.

## TESTING

## New-Generation Kitchen Trash Cans

Gone are the days when a kitchen trash can was nothing more than a simple plastic bin with a lid. These days, your choices include sleek models in fingerprint-proof stainless steel with motion sensors that can set you back close to \$200.00. To find out what our money would buy, we purchased five tall kitchen trash cans, including both bargain bins and luxury models, priced from \$17.99 to \$180.00. To evaluate design, user-friendliness, and odor control, we started by stuffing the cans with identical assortments of garbage, docking points if the bags slipped down or were hard to fill or remove. We then loaded the cans with odoriferous ingredients, left them for a weekend, and sniffed around for smells on Monday. Our final consideration was the way the user opens the bin (step pedal, button, motion sensor, or manually); after using the cans daily for several weeks in home kitchens, a step pedal model won us over. Though it's an investment, the Simplehuman Rectangular Step Trash Can (\$180.00) shows impressive attention to detail. Its lid opens fully and effortlessly for access to a roomy barrel and can be kept open with the flip of a switch; plus, it has a lightweight liner that can be removed for cleaning. If you don't want to spring for bells and whistles, our Best Buy, the Sterilite Lift-Top Wastebasket (\$17.99), has to be opened by hand, but it's sturdy and easy to use. For complete testing results, go to [CooksIllustrated.com/oct15](http://CooksIllustrated.com/oct15). —Kate Shannon

### SIMPLEHUMAN Rectangular Step Trash Can, 50 liter

PRICE: \$180.00

COMMENTS: We appreciated the foot pedal on this luxe model as well as its sleek but spacious and sturdy frame that trapped odors. It boasts a fingerprint-proof stainless-steel exterior and a liner that can be lifted onto an interior rest for easy bag changes.



### STERILITE Lift-Top Wastebasket

PRICE: \$17.99

COMMENTS: Although it lacks a hands-free opening mechanism, this model's lid opens completely and can be left open. It's also a snap to line the can and remove full bags, and it kept odors contained.



### Watch It Become Fattoush

Video available free for 4 months at [CooksIllustrated.com/oct15](http://CooksIllustrated.com/oct15)



# Grilled Country-Style Ribs

Though not true ribs, this lesser-known cut pairs the rich flavor of ribs with the quick cooking of a chop.

BY LAN LAM

Country-style pork ribs are a favorite in the test kitchen—we've sliced them into small pieces for stir-fries and braised and shredded them for hearty ragus. But this cut is rarely prepared on its own, perhaps because the name causes confusion. Country-style ribs actually aren't anything like baby back ribs or St. Louis-style spareribs, which are sold as racks of bones joined by collagen-rich meat that takes hours to turn tender. Instead, they are more like well-marbled pork chops: They're a knife-and-fork cut, sold either boneless or with a portion of bone attached, containing both light, lean loin meat and a section from the dark, richly pork-flavored shoulder. And because they contain much less collagen, they cook quickly.

So why not treat them like pork chops and feature them front and center in a recipe? Grilling seemed like a great option. The trick, I knew, would be getting the white and dark meat to cook evenly. The pork chops we've grilled in the past contain only meat from the loin, so I'd need to come up with my own cooking method for country-style ribs that produced a flavorful, nicely browned exterior and juicy interior throughout.

We often brine or salt pork chops to help the meat stay juicy while it cooks. Since soaking chops in a saltwater brine would impede browning, it seemed more sensible to take a cue from barbecuing and apply a salt-heavy spice rub to my ribs, letting them sit to give the salt time to penetrate. I made a simple dry rub with chili powder, cayenne, a tablespoon of salt, and brown sugar, which would encourage browning while adding a complex sweetness. After coating the ribs with this spice mixture, I wrapped them tightly in plastic wrap and placed them in the fridge. A few stripped-down cooking tests showed that the ribs were nicely seasoned after just 1 hour but didn't suffer from sitting in the fridge for a full 24 hours if I wanted to apply the rub the day before.

Now it was time to move on to the key challenges. I decided to focus first on figuring out how much to cook the pork and then worry about the grill setup, so I began with a straightforward single-level fire, spreading 6 quarts of lit coals evenly over the grill. Though



Country-style ribs offer a lot more meat per bone than traditional pork ribs.

cooking the ribs to 175 degrees delivered perfect dark meat, the light meat was woefully dry. On the flip side, pulling the ribs off the grill when they reached 135 to 140 degrees produced juicy light meat but chewy, underdone dark meat. A compromise was in order. Tasters eventually voted in favor of ribs cooked to 150 degrees. The fat in the ribs moistened the light meat enough that the slight overcooking wasn't noticeable, while the dark meat still had a little tug to it but was nevertheless reasonably tender—and very flavorful.

All that was left was to fix the grill setup. On a single-level fire, the exterior of my ribs tended to dry out while I waited for the interior to come up to temperature. There were also hot and cool spots because of gaps between the coals, which meant that some ribs burned. When we want a combination of good char and a perfectly cooked interior, we often set up the grill with hotter and cooler sides, piling all the coals on one side; that was clearly the way to go here. I started the ribs over the more concentrated, even heat of the hotter side to produce excellent browning. I then finished them on the cooler side to slowly cook them through for juicy, tender results. On the cooler side, it was also easy to add sweetness and tang by basting the ribs with barbecue sauce and allowing it to slowly caramelize without burning.

Country-style pork ribs might be a misnomer, but there's no confusion that my recipe for sweet and tangy, meaty grilled pork was a winner.

## SWEET AND TANGY GRILLED COUNTRY-STYLE PORK RIBS

SERVES 4 TO 6

For information on buying country-style pork ribs, see "Ribs That Aren't" on page 28. Be sure to trim the pork well to reduce flare-ups. This recipe requires refrigerating the spice-rubbed ribs for at least 1 hour or up to 24 hours before grilling. For our free recipe for Sweet and Tangy Barbecue Sauce, go to [CooksIllustrated.com/oct15](http://CooksIllustrated.com/oct15). Alternatively, use bottled sauce (our winning brand is Bull's-Eye Original Barbecue Sauce).

- 4 teaspoons packed brown sugar
- 1 tablespoon kosher salt
- 1 tablespoon chili powder
- 1/8 teaspoon cayenne pepper
- 4 pounds bone-in country-style pork ribs, trimmed
- 1/2 cup barbecue sauce, plus extra for serving

1. Combine sugar, salt, chili powder, and cayenne in bowl. Rub mixture all over ribs. Wrap tightly in plastic wrap and refrigerate for at least 1 hour or up to 24 hours.

2A. FOR A CHARCOAL GRILL: Open bottom vent halfway. Light large chimney starter filled with charcoal briquettes (6 quarts). When top coals are partially covered with ash, pour evenly over half of grill. Set cooking grate in place, cover, and open lid vent halfway. Heat grill until hot, about 5 minutes.

2B. FOR A GAS GRILL: Turn all burners to high, cover, and heat grill until hot, about 15 minutes. Leave primary burner on high and turn off other burners to maintain grill temperature around 350 degrees.

3. Clean and oil cooking grate. Place ribs on hotter side of grill. Cover and cook until well browned on both sides, 4 to 7 minutes total. Move ribs to cooler side of grill and brush with 1/4 cup sauce. Cover and cook for 6 minutes. Flip ribs and brush with remaining 1/4 cup sauce. Cover and continue to cook until pork registers 150 degrees, 5 to 10 minutes longer. Transfer ribs to serving platter, tent with aluminum foil, and let rest for 10 minutes. Serve, passing extra sauce separately.



### See How They Cook

Video available free for 4 months at [CooksIllustrated.com/oct15](http://CooksIllustrated.com/oct15)

# A New Way to Sauté Summer Squash

A common kitchen tool gets around the core issue.

➤ BY ANNIE PETITO ➤

Everyone knows that summer squash has a lot going for it: It's inexpensive and abundant, its mild flesh pairs nicely with a variety of flavors, and it cooks quickly. But it's also 95 percent water and full of meddlesome seeds. That means that unless you do some finagling, you're inevitably in for soggy, steamy, seedy results. Excess moisture is commonly addressed by cutting or shredding the vegetable, salting it, and then waiting at least 30 minutes for the liquid to drain off—a nonstarter when I'm racing to churn out dinner. Some recipes skip salting to economize on time and call for simply sautéing the squash quickly over high heat. The goal is to tenderize the flesh before it completely breaks down and sheds liquid, but the technique doesn't work very well. Chunky pieces end up soft on the outside but firm in the middle. Slicing the squash thin is an option, but that still doesn't get rid of the seeds. I wanted nonwatery, seedless squash on the table in a flash.

What if I removed the core altogether? Using a spoon to scrape the seeds from a squash that I halved lengthwise left me with odd-looking half-moon shapes. A better plan would be to work around the core, cutting the flesh first into thick vertical planks and then into thin, bite-size pieces. This was doable, but as I cut, I thought about a few recipes I'd seen that called for trading the knife for a vegetable peeler and shaving the squash into ribbons.

I got out my peeler and trimmed the ends from a colorful mix of summer squash and zucchini. Using



After just 4 minutes, the squash is tender and translucent.

firm, steady pressure and stopping when I reached the seeds, I speedily produced a generous pile of strips. It was time to move to the stove.

I placed a large nonstick pan over high heat and set out to cook the ribbons in a single batch. To prevent the strips from tangling in the pan, I tried coating them in plenty of extra-virgin olive oil before cooking, but this only made them greasy. Instead, I found that simply fluffing the squash with tongs as it hit the oil-coated skillet and tossing it occasionally during cooking adequately prevented clumping.

Normally, I want to develop as much browning as possible when cooking summer squash because of the rich flavor it adds. In this case, however, going overboard on browning detracted from the bright, colorful appearance of the graceful ribbons, so I dialed down the heat. In less than 5 minutes, I had crisp-tender, beautifully translucent squash that wasn't the least bit soggy or seedy.

Now I just needed to incorporate seasonings. A complex dressing would only overpower the delicate squash flavor, so I mixed together a straightforward vinaigrette. I started by squeezing a lemon and adding a clove of minced garlic. Next came extra-virgin olive oil and the zest from the lemon. When I tossed the dressing with the hot ribbons, they soaked it up and took on an attractive shimmer. With a final sprinkle of parsley, my work was done.

## SAUTÉED SUMMER SQUASH WITH PARSLEY AND GARLIC

SERVES 4

Be sure to start checking for doneness at the lower end of the cooking time. For our free recipe for Sautéed Summer Squash with Oregano and Pepper Flakes, go to [CooksIllustrated.com/oct15](http://CooksIllustrated.com/oct15).

- 1 small garlic clove, minced
- 1 teaspoon grated lemon zest plus 1 tablespoon juice
- 4 yellow squashes and/or zucchini (8 ounces each), trimmed
- 7 teaspoons extra-virgin olive oil
- Salt and pepper
- 1½ tablespoons chopped fresh parsley

1. Combine garlic and lemon juice in large bowl and set aside for at least 10 minutes. Using vegetable peeler, shave each squash lengthwise into ribbons. Peel off 3 ribbons from 1 side, then turn squash 90 degrees and peel off 3 more ribbons. Continue to turn and peel ribbons until you reach seeds. Discard core.

2. Whisk 2 tablespoons oil, ¼ teaspoon salt, ⅛ teaspoon pepper, and lemon zest into garlic mixture.

3. Heat remaining 1 teaspoon oil in 12-inch nonstick skillet over medium-high heat until just smoking. Add squash and cook, tossing occasionally with tongs, until squash has softened and is translucent, 3 to 4 minutes. Transfer squash to bowl with dressing, add 1 tablespoon parsley, and toss to coat. Season with salt and pepper to taste. Transfer to serving platter and sprinkle with remaining 1½ teaspoons parsley. Serve immediately.

## SAUTÉED SUMMER SQUASH WITH MINT AND PISTACHIOS

Substitute 1½ teaspoons cider vinegar for lemon zest and juice. Substitute ⅓ cup chopped fresh mint for parsley and sprinkle squash with 2 tablespoons pistachios, toasted and chopped, before serving.

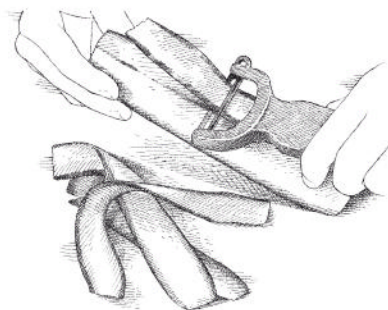
### Watch the Ribbons

Video available free for 4 months at [CooksIllustrated.com/oct15](http://CooksIllustrated.com/oct15)



### TECHNIQUE

#### MAKING SQUASH RIBBONS



Holding squash at slight angle, peel from the top downward. Rotate squash every few strokes, stopping when you reach the seedy core. A stack of four ribbons should be only ¼ inch thick.

# Guide to Freezing Ingredients

Too often, that extra half-can of tomato paste or handful of chopped onion gets thrown away. We tested dozens of ingredients to see which we could freeze for future use.

BY KEITH DRESSER AND LOUISE EMERICK

## Freeze It Right

When freezing food, air is the enemy. Freezer burn, indicated by ice crystals and brownish-white discoloration, happens when frozen food is exposed to air and dehydrates and oxidizes. Here's how to ensure the best texture and flavor.

## Keep Your Freezer Cold

The quicker foods freeze, and the fewer fluctuations in temperature once frozen, the better. Your freezer should register 0 degrees Fahrenheit or colder; use a thermometer to check.

### Portion Liquids

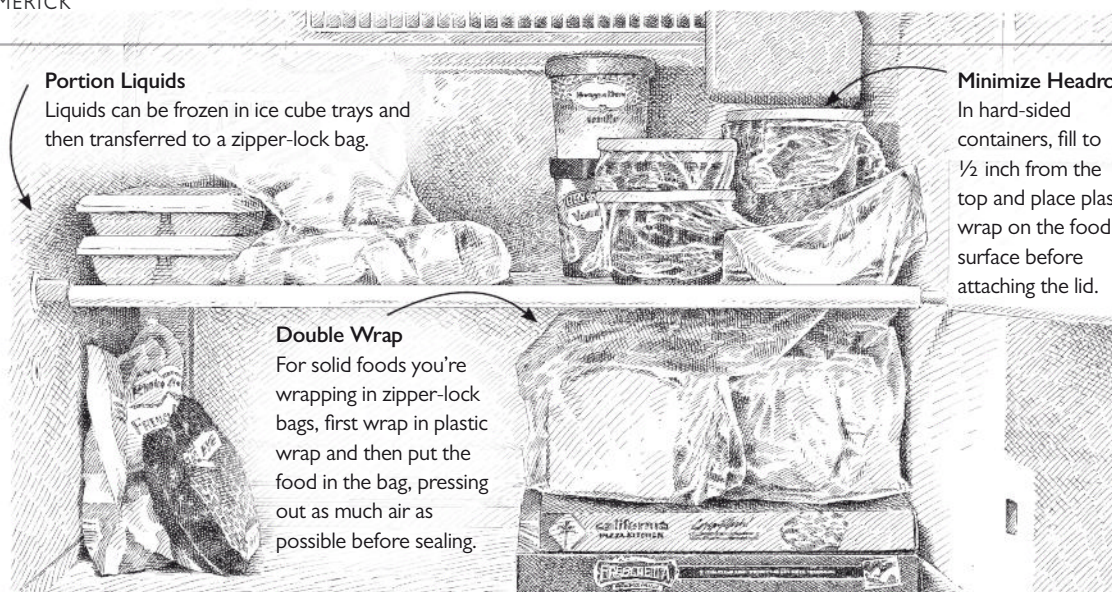
Liquids can be frozen in ice cube trays and then transferred to a zipper-lock bag.

### Minimize Headroom

In hard-sided containers, fill to ½ inch from the top and place plastic wrap on the food's surface before attaching the lid.

### Double Wrap

For solid foods you're wrapping in zipper-lock bags, first wrap in plastic wrap and then put the food in the bag, pressing out as much air as possible before sealing.



## PANTRY

These pantry ingredients can be frozen and thawed with virtually no noticeable change in quality.

### Anchovies, Bacon

**Prep:** Coil up individually (to prevent sticking and to minimize surface area for freezer burn), freeze on plate, and transfer to zipper-lock bag.

### Applesauce

**Prep:** Portion in ½- to 1-cup containers to freeze; transfer to zipper-lock bag.

### Beans (Soaked and Canned)

**Prep:** Rinse soaked dried beans (we brine ours for better flavor and texture) and drain canned beans. Pat all beans dry with paper towels and transfer to zipper-lock bag. To save space, lay flat to freeze.

➤ Cooked homemade beans don't freeze as well as canned beans; the latter contain calcium chloride, which protects against ice crystal damage.

### Bread

**Prep:** Wrap sliced loaves tightly in plastic wrap, wrap unsliced loaves in foil, and seal each in zipper-lock bag. Thaw individual slices at room temperature; no need to thaw slices before toasting. Place frozen loaves,

## SCIENCE Never Refrigerate Bread

Bread stales when starches crystallize and incorporate water into the crystalline structure, causing the loaf to harden. But the storage temperature dramatically affects how quickly this happens. We found that refrigerated bread staled in just a day and bread stored at room temperature staled in just two days—but frozen bread held up well for a month. Why? Staling, or retrogradation, occurs about six times faster at refrigerator temperatures (36 to 40 degrees) than at room temperature, but at below-freezing temps, it slows down significantly. Bottom line: Store bread at room temperature for no more than two days; otherwise, freeze it.

still wrapped in foil, in 450-degree oven for 10 to 15 minutes; remove foil and return loaves to oven for 1 to 2 minutes to crisp crust.

### Broth

**Prep:** For smaller amounts, freeze in ice cube trays or muffin tin cups; transfer to zipper-lock bag. For larger portions, line 4-cup liquid measuring cup with zipper-lock bag and pour in broth. Seal bag, seal in second bag if desired, and lay flat to freeze.

### Canned Tomato Paste

**Prep:** Open ends of can, push out paste, and freeze in zipper-lock bag. Cut off only as much as needed from frozen log.

### Chipotle Chiles in Adobo Sauce

**Prep:** Freeze spoonfuls of chiles and sauce on parchment paper-lined baking sheet; transfer to zipper-lock bag.

### Coconut Milk

**Prep:** Portion into ½- to 1-cup containers to freeze; transfer to zipper-lock bag. After thawing, process with immersion blender for 30 seconds to re-emulsify before use.

### Cooked Grains

**Prep:** Spread cooked grains (we tested wheat berries and long-grain white and brown rice) on baking sheet to cool, transfer to zipper-lock bag, and lay flat to freeze. No need to thaw before use.

### Tortillas

**Prep:** Separate corn or flour tortillas with waxed paper or parchment paper and place in zipper-lock bag. To thaw, defrost stacks of 3 to 4 tortillas in microwave at 50 percent power, 10 to 20 seconds per stack.

### Used Frying Oil

Even strained, used frying oil contains microscopic particles of food that make it go rancid quickly at room temperature.

**Prep:** Freeze in airtight containers.

### Wine

**Prep:** Freeze 1-tablespoon portions in ice cube tray; transfer to zipper-lock bag.

➤ Use only in cooking since freezing causes many of wine's organic compounds to precipitate out as solids (heat reintegrates them).

## DAIRY AND EGGS

We found that freezing dairy products and eggs didn't affect flavor, only texture. Liquids seemed thinner and separated; yogurts and some cheeses were grainy. That's because freezing causes the water and proteins to separate; the water then forms ice crystals while the proteins clump. Blending liquids with an immersion blender will eliminate some but not all clumps, so it's best to use thawed dairy in baked goods where it's not a primary ingredient. (Freezing also separates water and protein in egg yolks. But we came up with a great fix: stirring a simple syrup into the yolks. The dissolved sugar interferes with ice crystal formation and also prevents clumping.)

### Cream Cheese

**Prep:** Seal in zipper-lock bag.

➤ Don't use as spread or in recipes where grainy texture will be noticeable, such as in cheesecake. Fine for biscuits and pound cake.

### Cultured Dairy (Buttermilk, Sour Cream, Yogurt)

**Prep:** Portion in ½- to 1-cup containers to freeze; transfer to zipper-lock bag.

➤ Not good for custards, puddings, and most uncooked applications. (Greek yogurt is the exception—since freezing thins its texture, it can be swapped for regular yogurt in uncooked recipes.)

➤ Thawed buttermilk mixes well in salad dressings that include emulsifying agents (e.g., mayonnaise).

### Egg Whites

**Prep:** Freeze individually in ice cube trays; transfer to zipper-lock bag.

➤ Thawed whites will whip more quickly than fresh since freezing begins the process of unwinding their proteins that whipping continues.

### Egg Yolks

**Prep:** Prepare syrup of 2 parts sugar to 1 part water; stir into yolks using ¾ teaspoon syrup per 4 yolks. Syrup will not impart noticeable sweetness; yolks are fine even for savory applications such as hollandaise sauce.

### Hard and Semisoft Cheeses

**Prep:** Wrap cheese (cheddar, Brie, Pecorino Romano, mozzarella, and Parmesan all freeze well) tightly in foil; seal in zipper-lock bag.

➤ Cheddar turns crumbly after thawing; use only in melted applications.

### Milk and Cream

**Prep:** Portion in ½- to 1-cup containers to freeze; transfer to zipper-lock bag.

➤ Avoid using in uncooked applications; custards and puddings; and coffee, cocoa, and other hot beverages. Fine for baked goods and mashed potatoes.

➤ Thawed heavy cream can be whipped, but use it immediately or it will start to weep.

## Five to Always Freeze

There are a few ingredients that we always put directly in the freezer to preserve freshness and flavor and prevent spoilage.



### Bay Leaves

Stored in the freezer for three months, bay leaves were far more flavorful than those stored at room temperature for the same amount of time.



### Extra Butter

If kept in the fridge longer than a month, even unopened sticks of butter can pick up off-flavors. Freeze extra sticks sealed in a zipper-lock bag.



### Extra Coffee Beans

Unless coffee beans are sealed in unopened, airtight containers, their flavor deteriorates noticeably after 10 days at room

temperature. Before freezing, portion extra beans in one-day allotments to minimize exposure to air and moisture.



### Nuts

The high fat content of nuts means that they can turn rancid surprisingly fast at room temperature. There's no need to thaw them before use.



### Whole-Grain Flours, Oats, and Cornmeal

Freezing prevents fats in whole grains from oxidizing and producing off-flavors; transfer items to airtight containers first. Bring them to room temperature before baking with them.

## PRODUCE

Freezing alters the texture of many types of produce, but their flavors can remain remarkably intact.

### Bananas

**Prep:** Peel and then seal in zipper-lock bag.

➤ Best for quick breads (thaw first) and smoothies (keep frozen).

➤ Avoid pies, puddings, or any recipe where banana needs to hold its shape.

### Citrus Zest

**Prep:** Freeze in packed ½-teaspoon mounds on baking sheet; transfer to zipper-lock bag.

➤ Avoid using as garnish since color fades.

### Chopped Onions

**Prep:** Seal in zipper-lock bag.

➤ Freezing turns onions mushy. Use only in cooked applications (no need to thaw first).

## SCIENCE

### Cut Garlic and Onions Before Freezing

When cut, garlic and onions each release the same enzyme that reacts with their sulfur compounds to produce their characteristic pungent flavors. Because freezing reduces the activity of this enzyme, it needs to be able to do its job and produce the compounds before the garlic and onions go into the freezer, where the flavors will be preserved. There is one notable difference in how we freeze them: We coat garlic in oil to protect its pungent flavor compounds from oxidation. Onions contain an extra enzyme that does this job, so there's no need for the oil.

### Fresh Herbs

**Prep:** Chop parsley, basil, tarragon, or cilantro; transfer by spoonful to ice cube trays, top with water, and freeze. Transfer to zipper-lock bag.

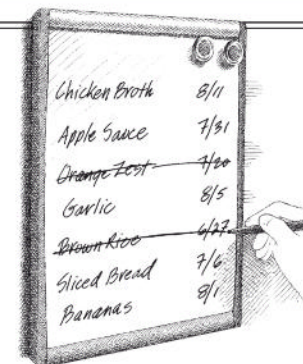
➤ Add frozen cubes directly to soups, sauces, and stews. Herb flavor won't be quite as strong as when fresh.

### Garlic

**Prep:** Mince garlic, combine with ½ teaspoon vegetable oil per clove, and freeze in heaping teaspoons on baking sheet. Transfer to zipper-lock bag.

### Ginger

**Prep:** Grate ginger (frozen whole ginger turns spongy), freeze in 1-teaspoon portions on baking sheet, and transfer to zipper-lock bag.



### Keep a Record!

Storing leftovers in the freezer is great—until you forget about them. To keep track of what you have, affix a dry-erase board to the freezer and make notes when you add (or remove) items. Adding dates also reminds you to use up older items.

# Really Good Black Bean Burgers

Earthy black beans should make a satisfying nonmeat burger. But most either fall apart when flipped or are so mushy that no one wants to eat them.

➤ BY ERIKA BRUCE ◀

When it comes to vegetarian recipes, veggie burgers have never been high on my list. Most rely on such a hodgepodge of ingredients, with multiple grains and vegetables that need to be individually prepared before they go into the burger, that they are a lot of work to put together. Black bean burgers seem more approachable. The earthy beans promise a hearty, satisfying meal, and because the beans themselves provide plenty of substance, ideally the process wouldn't be much more complicated than making an everyday beef burger—just mash up a couple of cans of beans, add a few complementary ingredients, shape into patties, and cook.

When I reviewed recipes, I found that there were a couple of approaches to handling the beans: They could be coarsely chopped, lightly mashed with a fork, or pureed until smooth. To bind the beans together, almost all recipes relied on eggs, and many also loaded up on starchy ingredients like bread crumbs or oats. Unfortunately, I wasn't impressed when I tried them. Lots of starch made it easy to shape chopped beans and eggs into patties, but these burgers turned into dry, tasteless hockey pucks once cooked. At the other end of the spectrum were the recipes that called for mashed or pureed beans. The cohesive, hummus-like texture held together nicely even with minimal binders, but it also produced a burger with a gluey, pasty consistency.

As for add-ins, recipes tended to follow the lead of veggie burgers by throwing in everything from porcini mushrooms and soy sauce to poblano peppers and cashew nuts. I was after burgers that featured earthy bean flavor at their heart with just enough seasoning and mix-ins to give them a little zest and intrigue. I also wanted patties that weren't wet or gluey but rather just cohesive enough to hold together when flipped in the pan, with a little textural contrast from chunks of beans and a nice crust.



A spicy chipotle mayonnaise enlivens the earthy-tasting burgers.

## A Hill of Beans

After draining and rinsing a couple of cans of beans, I spread the beans on paper towels to rid them of moisture. My thinking was the drier they were, the less starchy binder they might require. And to avoid a smooth, mushy texture, the beans would have to retain some of their shape. But they still needed to be broken down enough to incorporate well, so I pulled out the food processor. A couple of pulses produced nicely chopped pieces that would offer a bit of texture.

To transform the chopped beans into a cohesive burger mix, I tried stirring in a beaten egg along with a handful of panko bread crumbs. (I used only a small amount so as to let the bean flavor come to the fore.) Like tiny sponges, the bread crumbs did an excellent job of absorbing the egg's moisture, but even a little bit made the burgers taste bready. What's more, one egg seemed insufficient since each and every burger broke apart into crumbles as I flipped it.

Many recipes call for some sort of precooked grains, such as rice or bulgur, to bind the beans, but

in the interest of simplicity, I opted to avoid that path. Instead, I experimented with a different sort of starch that would complement the Latin American provenance of black beans: tortilla chips. Since I already had the food processor out, I quickly blitzed a few chips before pulsing in the beans. Then I added two beaten eggs to help hold the burgers together. Everything seemed great—that is, until I tried to pack the burgers into patties. The mixture was so wet and sticky that shaping them was nearly impossible.

## Bound for Glory

Adding more ground chips would only mute the flavor of the beans, so I took a lunch break, hoping that an hour of hands-off time would allow the starches in the beans and the tortilla chips to absorb the liquid from the egg. Just as I had hoped, the mixture was much easier to handle after it sat in the fridge for an hour. These patties were easy to form, held their shape fairly well, and developed a crisp, golden brown crust when I fried them in a little bit of oil. Unfortunately, they still occasionally broke apart as I flipped them.

To glue the burgers together more effectively, I took the unorthodox step of adding a good sprinkling of flour. After all, we often use flour in combination with beaten egg to get a breading to cling to meat. Sure enough, since wheat contains sticky amylopectin starches, a mere 2 tablespoons all but guaranteed that the burger would stay together, without negatively affecting flavor.

Now the burgers just needed some personality. Avoiding additions that were high in moisture or that needed to be cooked down ahead of time (such as onions and peppers), I landed on minced garlic and scallions and chopped fresh cilantro. They were quick and easy and fit my Latin American theme. For even more complexity, I spiked the mixture with citrusy coriander and smoky cumin. Finally, a dash of hot sauce added zip.

These burgers were ready to be topped with the usual fixings—gooey melted cheese, thinly sliced onion, lettuce leaves, and tomato slices—or more deluxe toppings like a creamy avocado-feta spread, spicy chipotle mayonnaise, or a tangy roasted tomato-orange jam.

### Look: It Really Works

Video available free for 4 months at [Cook'sIllustrated.com/oct15](https://Cook'sIllustrated.com/oct15)



## BLACK BEAN BURGERS

SERVES 6

The black bean mixture needs to be refrigerated for at least 1 hour or up to 24 hours prior to cooking. When forming the patties, it is important to pack them firmly together. Our favorite canned black beans are Bush's Best. Serve the burgers with your favorite toppings or with one of our spreads (recipes follow).

- 2 (15-ounce) cans black beans, rinsed
- 2 large eggs
- 2 tablespoons all-purpose flour
- 4 scallions, minced
- 3 tablespoons minced fresh cilantro
- 2 garlic cloves, minced
- 1 teaspoon ground cumin
- 1 teaspoon hot sauce (optional)
- ½ teaspoon ground coriander
- ¼ teaspoon salt
- ¼ teaspoon pepper
- 1 ounce tortilla chips, crushed coarse (½ cup)
- 8 teaspoons vegetable oil
- 6 hamburger buns

1. Line rimmed baking sheet with triple layer of paper towels and spread beans over towels. Let stand for 15 minutes.

2. Whisk eggs and flour together in large bowl until uniform paste forms. Stir in scallions; cilantro; garlic; cumin; hot sauce, if using; coriander; salt; and pepper until well combined.

3. Process tortilla chips in food processor until finely ground, about 30 seconds. Add black beans and pulse until beans are roughly broken down, about 5 pulses. Transfer black bean mixture to bowl with egg mixture and mix until well combined. Cover and refrigerate for at least 1 hour or up to 24 hours.

4. Adjust oven rack to middle position and heat oven to 200 degrees. Divide bean mixture into 6 equal portions. Firmly pack each portion into tight ball, then flatten to 3½-inch-diameter patty. (Patties can be wrapped individually in plastic wrap, placed

in a zipper-lock bag, and frozen for up to 2 weeks. Thaw patties before cooking.)

5. Heat 2 teaspoons oil in 10-inch nonstick skillet over medium heat until shimmering. Carefully place 3 patties in skillet and cook until bottoms are well browned and crisp, about 5 minutes. Flip patties, add 2 teaspoons oil, and cook second side until well browned and crisp, 3 to 5 minutes. Transfer burgers to wire rack set in rimmed baking sheet and place in oven to keep warm. Repeat with remaining 3 patties and 4 teaspoons oil. Transfer burgers to buns and serve.

## Bean Burgers Gone Bad

Mixing lots of starchy binders with whole or coarsely chopped beans makes a dry, crumbly burger without much flavor. Pureeing the beans allows you to use minimal binders but turns the patty mushy and gluey.



### CRUMBLY AND TASTELESS

Lots of starchy binders mute the bean flavor and dry out the burger.



### WET AND MUSHY

Pureed beans need fewer binders but lead to burgers with a hummus-like texture.

## AVOCADO-FETA SPREAD

MAKES ABOUT 1¼ CUPS

- 1 ripe avocado, cut into ½-inch pieces
- 1 ounce feta cheese, crumbled (¼ cup)
- 1 tablespoon extra-virgin olive oil
- 1 teaspoon lime juice
- ⅛ teaspoon salt
- ⅛ teaspoon pepper

Using fork, mash all ingredients in medium bowl until mostly smooth.

## CHIPOTLE MAYONNAISE

MAKES ABOUT ½ CUP

- 3 tablespoons mayonnaise
- 3 tablespoons sour cream
- 2 teaspoons minced canned chipotle chile in adobo sauce
- 1 garlic clove, minced
- ⅛ teaspoon salt

Combine all ingredients. Cover and refrigerate for at least 1 hour.

## ROASTED TOMATO-ORANGE JAM

MAKES ABOUT 1 CUP

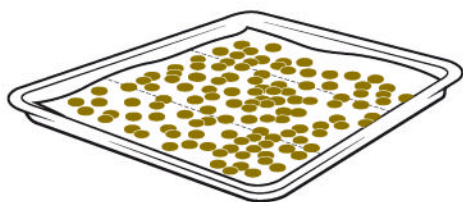
Line the baking sheet with foil for easy cleanup.

- 12 ounces cherry tomatoes, halved
- 1 shallot, sliced thin
- 1 tablespoon extra-virgin olive oil
- ¼ teaspoon salt
- ⅛ teaspoon ground cinnamon
- 2 tablespoons orange marmalade

Adjust oven rack to middle position and heat oven to 425 degrees. Toss tomatoes, shallot, oil, salt, and cinnamon together in bowl. Transfer to aluminum foil-lined rimmed baking sheet and roast until edges of tomatoes are well browned, 15 to 20 minutes. Let cool slightly; transfer tomato mixture to food processor. Add marmalade and process until smooth, about 10 seconds.

## Keys to an Ideal Black Bean Burger

Here's what we did to create a burger full of earthy bean flavor that wasn't muted by too much starchy binder.



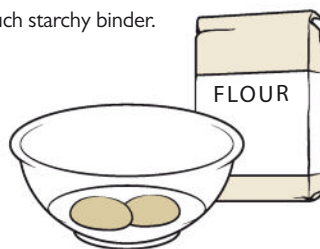
### DRY BEANS

Removing excess moisture by draining on paper towels helps cut down on the need for absorbent binders.



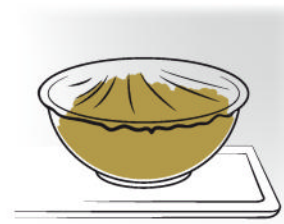
### PULSE, DON'T PUREE

Pulsing the beans with tortilla chips (we processed them first) keeps the beans chunky for textural contrast.



### GIVE IT EXTRA CLING

In addition to eggs and starchy tortilla chips, we add flour, which contains sticky amylopectin, to hold the mix together.



### LET IT REST

Letting the mixture sit gives the starches time to soak up the eggs so the burgers are easier to handle.

# Chocolate-Caramel Cake

The cake and frosting we weren't worried about. But a caramel filling that was complex in flavor and spreadable, yet thick enough not to ooze out? That was another matter.

➤ BY LAN LAM ◀

I love making layer cakes. Tall, imposing ones that make a splash at parties and serve a crowd. The components should be pitch-perfect and strike that balance between kid birthday nostalgia and adult sophistication—a moist, tender crumb; distinct, spreadable filling that's just thick enough to glue the layers together; and frosting that's silky and full-bodied but not so sweet or rich that a forkful is overwhelming.

Chocolate cake is my favorite, and I've made plenty layered with buttercream, ganache, and mousse. But this time I wanted to home in on chocolate and caramel—a combination that has a kind of visceral appeal. A quick search turned up plenty of recipes with a wide range of profiles. Maybe all I had to do was bake off a few and find one I liked.

Wishful thinking. It wasn't that every recipe was a total failure; there were cakes with solid chocolate flavor, gooey caramels, and smooth frostings. And many of them had at least four layers so that the whole package looked rather majestic. But not one delivered the trifecta I had in mind: layers of dark, truly chocolatey cake separated by pleasantly bitter, soft but not runny caramel and generously (but judiciously) covered with glossy chocolate frosting that was a notch less dark and rich than the cake itself.

## Piece of Cake

Deep chocolate flavor was a must for the cake but so was getting the crumb just right. In addition to being moist and tender, it needed to be sturdy enough to hold up under the weight of the caramel and frosting. And given that this was a three-component dessert, I wanted to keep the cake-making process as simple as possible.

Those textural considerations would be affected by the mixing method, so I reviewed the two basic options. First—and most traditional for layer cakes—there was the creaming method. This involves beating



Think all layer cakes are fussy? This one isn't. The cake is a dump-and-stir, the caramel is simple, and the frosting takes minutes in a food processor.

softened butter with sugar in a stand mixer until it becomes light and fluffy, adding eggs one by one, and then gradually beating in the dry and liquid components alternately until just combined.

I was more keen on the second option, the dump-and-stir method, which involves simply whisking together the dry and wet ingredients in separate bowls and then whisking the wet into the dry until a smooth batter forms. This would be much faster and easier than hauling out my stand mixer, and stirring the liquid directly into flour that has not been coated with butter would create more gluten. This in turn would make for a sturdier but sufficiently tender cake that could be halved to make 4 layers (I'd cut each cake into 2 rounds) able to stand up to the filling and frosting.

I threw together a basic chocolate cake batter and divided it between two 9-inch round cake pans that I greased, floured, and lined with parchment paper (for more information about prepping cake pans, see "Do I Really Need to Use Parchment Paper?" on page 22). After baking for 25 minutes in a 325-degree

oven, the cakes emerged nicely resilient, albeit tighter and drier than I wanted. The chocolate flavor was also a tad dull. Adding  $\frac{1}{2}$  cup of water moistened the crumb (more buttermilk would have increased the acidity in the cake and potentially compromised the leaveners), and swapping the melted butter for more neutral-tasting vegetable oil allowed the chocolate flavor to shine.

## Buttering Up the Caramel

Making caramel sauce is a two-stage process. First, you heat sugar until it melts; some cooks also add a little water, which helps the sugar caramelize evenly without burning, and light corn syrup, which helps prevent crystallization. The degree to which you cook the sugar after melting determines the flavor of the caramel; the higher the final temperature, the more complex and bitter it will be. Next, cream, butter, and other flavorings (like salt and vanilla) are added, which creates a fluid caramel sauce. As the mixture cooks, the temperature increases, water evaporates, and the caramel sauce stiffens—eventually turning into hard candy.

Thus, the biggest key to making a faintly bitter and spreadable but not runny caramel

was to zero in closely on its temperature at the two different stages. I boiled  $1\frac{1}{4}$  cups of sugar with  $\frac{1}{4}$  cup each of water and light corn syrup in a saucepan until the mixture turned amber, which took about 10 minutes. Then I lowered the heat and continued to caramelize the sugar mixture until it turned dark amber and its temperature registered between 375 and 380 degrees—a good indication that its flavor would be just a touch bitter but not burnt. Off the heat, I stirred in 1 cup of heavy cream, 6 tablespoons of butter, 1 teaspoon of vanilla, and a generous  $\frac{3}{4}$  teaspoon of salt (salty caramel would be a great match for the sweeter frosting).

Now for the tricky part—figuring out just how much to reduce the liquidy caramel. I returned the heat to medium and simmered the mixture (stirring frequently to ensure even cooking) until it hit about 240 degrees; at that point, it looked a bit runny, but I hoped it would stiffen up a bit as it cooled. I poured it into a greased baking pan—spreading it out would help it cool faster—and waited until it was just warm to the touch.



## Lan Makes the Cake

Video available free for 4 months at [Cook'sIllustrated.com/oct15](https://Cook'sIllustrated.com/oct15)

## Don't Be Afraid of Caramel

Caramel is simply sugar (sucrose) that's been heated until it melts, browns, and develops complex flavor. You can use it to make a fluid caramel sauce or chewy or hard candy by adding cream, butter, and other flavorings. The longer the mixture cooks, the more water will evaporate and the stiffer the caramel will become.

Though caramel gets a bad rap for being finicky to make, with the right recipe, it's easy to overcome its two main pitfalls: The sugar can melt unevenly and burn, or it can seize up and crystallize. The latter happens when some of the sucrose molecules are not hot enough to melt and break down into glucose and fructose and instead bond, creating a grainy texture. Here's what we do to make a caramel that works.

### ESSENTIAL TECHNIQUES

#### ➤ Add Water

Water, which makes a "wet caramel," helps the sugar dissolve and spread across the pan so that it melts evenly and reduces the risk that some sugar burns before the rest caramelizes.

#### ➤ Add Corn Syrup, Not Acid

Adding acid or corn syrup to sugar as it caramelizes can prevent crystallization; both ingredients interfere with sucrose's ability to bond with itself.

**Acids:** A small amount of lemon juice, vinegar, or cream of tartar speeds the breakdown of sucrose into fructose and glucose. These molecules dilute the remaining sucrose molecules, decreasing their chances of bonding together before they, too, can break down.

**Corn syrup:** Corn syrup already

contains glucose molecules (and water); thus, it dilutes the sucrose molecules faster. For this reason, we prefer it over acids.

#### ➤ Use a Heavy-Bottom Saucepan

Sugar is prone to burning in lightweight cookware, which does not transfer heat evenly. A heavy saucepan helps the sugar cook evenly.

#### ➤ Use Two Levels of Heat

Over high heat the sugar can heat unevenly or even burn, but over low heat it can crystallize. That's because there will be enough heat to evaporate the water, but not enough to melt the sugar, so the sucrose molecules can bond. We melt the sugar over medium-high heat and then reduce the heat to low to prevent it from burning.

### "TIPS" TO AVOID

As long as you cook the sugar over a hot enough flame, it will melt, so skip these common caramel techniques.

#### ➤ Stirring

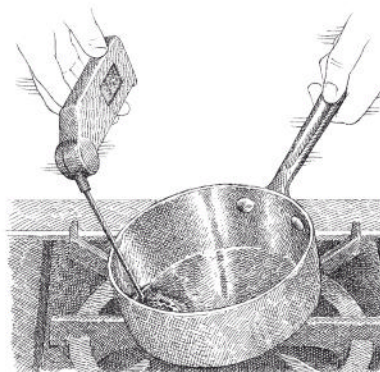
Stirring the sugar to help it melt isn't necessary. We simply swirl the pan occasionally as the syrup cooks to even out hot spots.

#### ➤ Washing/Covering

Brushing the walls of the pot with a wet pastry brush and covering the saucepan to create condensation are both meant to "rinse" away any sugar molecules that might be clinging to the sides, but they will melt eventually anyway.

### TECHNIQUE

## TAKING THE TEMPERATURE OF CARAMEL



Before inserting an instant-read thermometer (which we prefer to a candy thermometer) into the caramel, swirl the caramel to even out any hot spots. Then tilt the pot so that the caramel pools 1 to 2 inches deep and move the thermometer back and forth in the caramel for about 5 seconds before taking a reading. If using a clip-on thermometer, swirl the caramel for at least 15 seconds and tilt the caramel toward the probe.

But it didn't stiffen up enough, so when I went to spread it on the prepared cakes, some of the caramel soaked into the cake while more of it gently oozed from between the layers. The obvious next test was to cook the caramel to a higher temperature—250 degrees—but that overdid it, producing a more viscous mixture that was too firm to spread.

I briefly changed course and made a dulce de leche-type caramel with sweetened condensed milk, since its thick, viscous consistency would be close to what I was after. But its duller, milkier flavor didn't offer the same complexity and depth as a traditional caramel.

What my filling needed, I realized, was something that is both solid and soft at room temperature—like butter. I made a couple more batches of caramel with increasing amounts of butter and found that adding 2 extra tablespoons produced a cooled caramel that was soft enough to spread but solid enough that it didn't soak into or leak out of the cake.

### Icing on the Cake

Tasting the deep chocolate cake spread with the caramel filling confirmed that the frosting could stand to be a bit sweeter than the cake—and I had just the thing in mind. In the test kitchen archives is a chocolate frosting that has just the right rich body and glossy sheen; even better, it is a cinch to



## The Five-Recipe Test: Not a Cakewalk

As with any new recipe, we started our chocolate-caramel cake testing by seeing what other recipes had to offer. The five we chose (from sources including *Martha Stewart Living* and *Bon Appétit*) ranged in technique and flavor—but all were flawed in some way. Beyond their glossy coats and tall statures were dry, dull cakes; caramel fillings that were too stiff or too runny; and frostings that were overly dense or achingly sweet.

make since it comes together in the food processor in just minutes.

I followed the recipe, processing softened butter with confectioners' sugar, cocoa powder, corn syrup (its moisture helps dissolve the confectioners' sugar and prevents that unpleasant graininess some frostings have), vanilla, and melted milk chocolate. It spread beautifully over the cake—thick and smooth. I even swirled some simple designs into the top coat for a more festive look. But my tasters and I agreed that the milk chocolate flavor was a few notches sweeter than it should be, so I swapped it for bittersweet.

The darker chocolate coat made the cake look and taste a bit more sophisticated, but the whole package still had a touch of whimsy and birthday party charm—exactly the type of cake I couldn't wait to make for my next dinner party. And for the salted caramel fans, I sprinkled on a bit of coarse sea salt, which gave it a delicate crunch and even a little sparkle.

### CHOCOLATE-CARAMEL LAYER CAKE

SERVES 12

Baking spray that contains flour can be used to grease and flour the pans. Both natural and Dutch-processed cocoa will work in this recipe. When taking the temperature of the caramel in steps 3 and 4, remove the pot from the heat and tilt the pan to one side. Use your thermometer to stir the caramel back and forth to equalize hot and cool spots and make sure you are getting an accurate reading (see "Taking the Temperature of Caramel" on page 21). For ideas on finishing the cake, see "Frosting Cakes with Flair" on page 30.

#### Cake

- 1½ cups (7½ ounces) all-purpose flour
- ¾ cup (2¼ ounces) unsweetened cocoa powder
- 1½ cups (10½ ounces) granulated sugar
- 1¼ teaspoons baking soda
- ¾ teaspoon baking powder
- ¾ teaspoon salt
- ¾ cup buttermilk
- ½ cup water
- ¼ cup vegetable oil
- 2 large eggs
- 1 teaspoon vanilla extract

#### Caramel Filling

- 1¼ cups (8¾ ounces) granulated sugar
- ¼ cup light corn syrup
- ¼ cup water
- 1 cup heavy cream
- 8 tablespoons unsalted butter, cut into 8 pieces
- 1 teaspoon vanilla extract
- ¾ teaspoon salt

#### Frosting

- 16 tablespoons unsalted butter, softened
- ¾ cup (3 ounces) confectioners' sugar

- ½ cup (1½ ounces) unsweetened cocoa powder
- Pinch salt
- ½ cup light corn syrup
- ¾ teaspoon vanilla extract
- 6 ounces bittersweet chocolate, melted and cooled

¼–½ teaspoon coarse sea salt (optional)

**1. FOR THE CAKE:** Adjust oven rack to middle position and heat oven to 325 degrees. Grease two 9-inch round cake pans, line with parchment paper, grease parchment, and flour pans. Sift flour and cocoa into large bowl. Whisk in sugar, baking soda, baking powder, and salt. Whisk buttermilk, water, oil, eggs, and vanilla together in second bowl. Whisk buttermilk mixture into flour mixture until smooth batter forms. Divide batter evenly between prepared pans and smooth tops with rubber spatula.

**2.** Bake until toothpick inserted in center comes out clean, 22 to 28 minutes, switching and rotating pans halfway through baking. Let cakes cool in pans on wire rack for 15 minutes. Remove cakes from pans, discarding parchment, and let cool completely on rack, at least 2 hours.

**3. FOR THE CARAMEL FILLING:** Lightly grease 8-inch square baking pan. Combine sugar, corn syrup, and water in medium saucepan. Bring to boil over medium-high heat and cook, without stirring, until mixture is amber colored, 8 to 10 minutes. Reduce heat to low and continue to cook, swirling saucepan occasionally, until dark amber, 2 to 5 minutes longer. (Caramel will register between 375 and 380 degrees.)

**4.** Off heat, carefully stir in cream, butter, vanilla, and salt (mixture will bubble and steam). Return saucepan to medium heat and cook, stirring frequently, until smooth and caramel reaches 240 to 245 degrees, 3 to 5 minutes. Carefully transfer caramel to prepared pan and let cool until just warm to touch (100 to 105 degrees), 20 to 30 minutes.

**5. FOR THE FROSTING:** Process butter, sugar, cocoa, and salt in food processor until smooth, about 30 seconds, scraping down sides of bowl as

## Perfecting the Caramel Filling

Our caramel filling is soft enough to spread on the cake layers but not so fluid that it soaks into the cake or drips down the sides of a cut slice.



SOFT, BUT NOT RUNNY

needed. Add corn syrup and vanilla and process until just combined, 5 to 10 seconds. Scrape down sides of bowl, then add chocolate and pulse until smooth and creamy, 10 to 15 seconds. (Frosting can be made 3 hours in advance. For longer storage, cover and refrigerate frosting. Let stand at room temperature for 1 hour before using.)

**6.** Using long serrated knife, score 1 horizontal line around sides of each cake layer; then, following scored lines, cut each layer into 2 even layers.

**7.** Using rubber spatula or large spoon, transfer ⅓ of caramel to center of 1 cake layer and use small offset spatula to spread over surface, leaving ½-inch border around edge. Repeat with remaining caramel and 2 of remaining cake layers. (Three of your cake layers should be topped with caramel.)

**8.** Line edges of cake platter with 4 strips of parchment to keep platter clean. Place 1 caramel-covered cake layer on platter. Top with second caramel-covered layer. Repeat with third caramel-covered layer and top with final layer. Spread frosting evenly over sides and top of cake. Carefully remove parchment strips. Let cake stand for at least 1 hour. (Cake can be made 2 days in advance and refrigerated. Let stand at room temperature for at least 5 hours before serving.) Sprinkle with coarse sea salt, if using. Cut and serve.

## Do I Really Need to Use Parchment Paper?

It may sound like overkill, but the most effective way to ensure that a cake releases cleanly from a baking pan is to grease the pan, line it with parchment paper, and then grease and flour the parchment and pan sides. The parchment guarantees that the cake pulls away from the pan bottom completely, and a coat of grease and flour on the parchment and up the pan sides helps the batter cling and rise and ensures that the parchment pulls away from the cake bottom without removing large crumbs.



GOT STUCK  
Just grease and flour

CLEAN RELEASE  
Grease, flour, and parchment

# The Chef's Secret Weapon

What if one pan could do everything the best traditional stainless-steel, cast-iron, and nonstick pans can do—and, in some cases, even do it a little better?

➤ BY LISA McMANUS ⇐

Even if you've never heard of a carbon-steel skillet, you've almost certainly eaten a meal made in one. Restaurant chefs use these pans for all kinds of tasks, from searing steak to sautéing onions to cooking eggs. French omelet and crêpe pans are made of carbon steel, as are the woks used in Chinese restaurants. Even Julia Child had a few carbon-steel pieces alongside her familiar rows of copper cookware. In European home kitchens, these pans are hugely popular. Somehow, though, despite their prevalence in restaurants, they've never really caught on with home cooks in the United States. Given their reputation for being as great at browning as they are at keeping delicate foods from sticking, we wondered if it was time that changed.

We bought seven carbon-steel skillets, all as close as possible to our preferred size of 12 inches for a primary skillet, priced from \$39.95 to \$79.95. For fun we also threw in a \$230 hand-forged version made in Oregon. Bearing in mind carbon steel's multipurpose promise, we decided on a range of recipes for our testing: frying eggs, turning out cheese omelets, pan-searing steaks, and baking the traditional French upside-down apple dessert known as *tarte Tatin*, which begins on the stove and moves to the oven. Along the way we'd evaluate the skillets' shape, weight, handle comfort, and maneuverability. Washing the pans after every test would let us judge how easy they were to clean and maintain. Our key question: Could this one type of pan actually make owning the other skillets we've always had in our arsenal—stainless-steel tri-ply, cast-iron, and nonstick—more of an option than a necessity?

## In Season

The first thing we learned about carbon steel is that, like cast iron, it rusts when it's bare. It requires seasoning, a process that bonds oil to the pan to not only provide a layer of protection but also start the process of making the pan nonstick. While two of the skillets we ordered came preseasoned, the other six arrived sheathed in sticky beeswax or thick grease to block rust formation in transit. After scrubbing off this temporary coating (which was sometimes



A well-seasoned carbon-steel skillet is so nonstick that fried eggs slip around in the pan.

easier said than done), we followed each manufacturer's seasoning instructions. At first we wondered if the need for seasoning might end up being a deal breaker. But we found a favorite method that is relatively easy. (For more, see "Seasoning Carbon Steel" on page 24.)

When we got cooking, we were astonished at how nonstick even the initial seasoning made these pans. Our first test was to fry an egg in a teaspoon of butter. In nearly all of the pans, the egg slipped around like a puck on an air hockey table. Omelets slid out in perfect golden oblongs, and tarts popped out intact, with few exceptions. Each time we cooked, more patina built up. And as long as we cleaned it following manufacturers' instructions—no soap and a light coat of oil after drying, like cast iron—the nonstick surface kept gradually improving. Most of the time, we merely had to wipe out the pan with a paper towel—no washing at all—to find it clean as a whistle.

So our first discovery was a big one: Getting true nonstick performance from a carbon-steel skillet

is remarkably quick. Another virtue of carbon-steel skillets came to light when we seared steaks. A smoking-hot traditional stainless-steel tri-ply skillet does a perfectly acceptable job at this task, and it's what most home cooks are likely to use, even though we're partial to cast iron and find that it does a superior job (cast iron's heat retention makes it incredibly good for high-heat tasks). The carbon-steel pans trumped both. The impressively deep, even browning these pans produced was easily on a par with cast iron, but because carbon-steel pans are lighter and thinner than cast-iron skillets of the same size, the carbon-steel pans were able to heat up in nearly half the time. Later, using our winning carbon-steel pan, we saw equally great browning when we tried an assortment of other recipes, including frying sliced potatoes, cooking burgers, and stir-frying Sichuan green beans. This is a skillet worth owning if only for pan frying and sautéing, besting our favorite traditional skillet and equaling the best cast-iron skillet in terms of results but with less weight to lug. Like both of these types of pans, it can also go under the broiler.

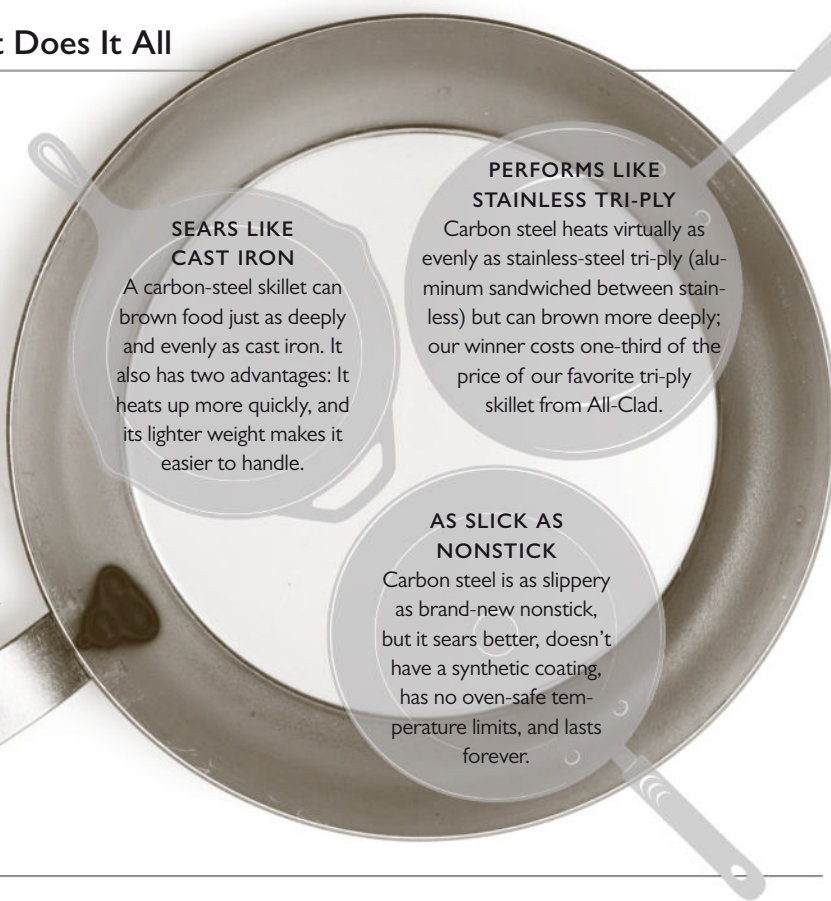
However, during these additional tests we did discover one downside. If you simmer an acidic tomato sauce in a carbon-steel skillet, as we did when we made a batch of skillet lasagna in our winning pan, the acid will strip off most of the pan's dark patina and the shiny silver interior of the skillet.

## Carbon Steel: A Very Versatile Material

The composition of carbon steel, an alloy made of about 1 percent carbon and 99 percent iron, makes it a particularly functional material for cookware. It contains slightly less carbon than cast-iron, which makes it less brittle; as a result, it can be made relatively thin and lightweight but still be plenty durable. It's heavy enough to retain heat well but thin enough to heat quickly. And unlike cast iron, which is so rough that it requires multiple rounds of seasoning to become truly nonstick, the smooth surface of carbon steel makes it easy to acquire a slick patina of polymerized oil during seasoning. For a detailed comparison of carbon steel and cast iron, go to [CookIllustrated.com/carbonsteel](http://CookIllustrated.com/carbonsteel).

## The Pan That Does It All

A good carbon-steel skillet can literally do it all: You can bake, broil, sear, and stir-fry in it; plus, you can cook delicate foods like fish and eggs in it with no fear of sticking. It's no wonder that these skillets are used by so many professional chefs in restaurant kitchens around the world. The only caveat? Cooking with acidic ingredients will take away some of the seasoning, but it can be easily restored.



### SEARS LIKE CAST IRON

A carbon-steel skillet can brown food just as deeply and evenly as cast iron. It also has two advantages: It heats up more quickly, and its lighter weight makes it easier to handle.

### PERFORMS LIKE STAINLESS TRI-PLY

Carbon steel heats virtually as evenly as stainless-steel tri-ply (aluminum sandwiched between stainless) but can brown more deeply; our winner costs one-third of the price of our favorite tri-ply skillet from All-Clad.

### AS SLICK AS NONSTICK

Carbon steel is as slippery as brand-new nonstick, but it sears better, doesn't have a synthetic coating, has no oven-safe temperature limits, and lasts forever.

let will reappear. However, we didn't notice any off-flavors when we tasted the lasagna, and a few rounds of stovetop heating and wiping the skillet with oil, which took about 10 minutes, restored the slippery patina.

Finally, design. We found two basic styles: very thin, shell-like pans and a thicker variety. The thin pans scorched food and threw off recipe times (butter instantly browned and even blackened before we could crack an egg to fry), and they warped by the end of testing. We preferred the thicker skillets. Even if they were a bit harder to lift—some weighed up to twice as much as our favorite traditional skillet, though still a few pounds less than our favorite cast-iron pan—they regulated heat much better and did not warp.

Other design features—issues that have come up in every skillet testing we've done—mattered, too. Some pans felt unbalanced or had slightly cramped cooking surfaces. Others had too-high sides that impeded access to the food or too-low sides that let liquids (like the egg for omelets) splash out. And several of the pans had unusually long, steeply angled handles; these made shorter testers grab them at awkward angles, and they barely fit inside the oven when we baked tarte Tatin.

## Make Room on the Pot Rack

Despite these minor issues, though, our conclusion was clear: Carbon-steel skillets have earned a place in our kitchen. They possess some of the best attributes and lack several of the drawbacks from each type of standard skillet. They offer the versatility of a traditional pan, the heat retention of cast-iron at a lighter weight, and the slick release of a good nonstick skillet without the synthetic coating or the lack of durability. In fact, many of us would happily opt for just a carbon-steel pan in our own home arsenal. (Plus, perhaps, either a traditional or nonstick pan if we didn't want to fuss with reestablishing the seasoning after cooking acidic dishes.)

At the end of our testing, we had two top choices: First, the Matfer Bourgeat Black Steel Round Frying Pan, 11 $\frac{7}{8}$ " , priced at an affordable \$44.38. This is a simple, classic pan that cooks beautifully. It's sturdy, easy to maneuver, and quick both to acquire slick seasoning and to clean up, with a smooth, rivet-free interior that won't trap food particles—in other words, it's all you need. But if you want a pan that's a showpiece as well, we also loved the Blu Skillet Ironware 13" Fry Pan (\$230.00). While our initial skepticism was well deserved given its price, we were surprised by what a great pan it was. It is beautifully crafted, sturdy, and well sized and shaped, and it performs perfectly, releasing food well from the get-go and only improving as we used it. However, its high price means it's not for everyone, and because the pans are made by hand one by one, wait times can be weeks long, depending on demand.

## Seasoning Carbon Steel

Unless it comes preseasoned, a carbon-steel pan requires seasoning just as a cast-iron pan does. This process bonds oil to the surface, providing protection against rust and making the pan nonstick. The instructions that come with our winning pan, from Matfer Bourgeat, suggest an unusual method, but we found that it really works.

### INITIAL SEASONING

First you'll need to remove the new pan's wax or grease coating (used to protect the metal from rusting in transit). Use very hot water, dish soap, and vigorous scrubbing with a bristle brush. Dry the pan and then put it on low heat to finish drying. Add  $\frac{1}{2}$  cup oil,  $\frac{2}{3}$  cup salt, and peels from two potatoes (these help to pull any remaining wax or grease from the pan surface). Cook over medium heat, occasionally moving the peels around the pan and up the sides to the rim, for 8 to 10 minutes. (The pan will turn brown.) Discard the contents, allow the pan to cool, and wipe with paper towels. You are ready to cook. (If you experience sticking, repeat once.) This method will work on any carbon-steel skillet.

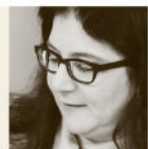
### MAINTENANCE

Avoid soap and abrasive scrubbing. Simply wipe or rinse the pan clean, dry it thoroughly on a warm burner, and rub it with a light coat of oil. If you accidentally scrub off some of the patina, wipe the pan with a thin coat of oil and place it over high heat for about 10 minutes until the pan darkens (it will smoke; turn on an exhaust fan).



### ➤ Blotchy is OK.

As soon as you season and start cooking in a carbon-steel pan, it changes from shiny silver to brown and blotchy. The blotches are a sign that the pan is building up a slippery patina, which will help it become increasingly nonstick. The blotches and nonstick capability may initially wax and wane, but with use, the pan's cooking surface will gradually darken and become more uniform in color.



### 📺 Lisa Explains It All

Video available free for 4 months at [CooksIllustrated.com/oct15](https://cooksillustrated.com/oct15)

## KEY

GOOD ★★★

FAIR ★★

POOR ★

## TESTING: CARBON-STEEL SKILLETS

We tested eight carbon-steel skillets, all close to 12 inches in diameter, rating them on their cooking performance, sticking, and ease of use, including directions for seasoning. (Two pans were preseasoned; we seasoned the rest according to manufacturer instructions.) All pans were purchased online and appear in order of preference.

## COOKING SURFACE

Official pan sizes are based on rim-to-rim measurements; we measured across the flat portion of the inside of each pan to assess the actual available cooking surface.

## COOKING

We fried eggs, made omelets, pan-seared steaks, and baked tartes Tatin. Pans that performed well across the board earned higher ratings.

## NONSTICK

Pans received high marks for consistently releasing food without sticking.

## EASE OF USE

We considered design factors such as shape; weight; thickness; and handle angle, length, and comfort. We also rated pans higher if they were easier to clean.

## HIGHLY RECOMMENDED

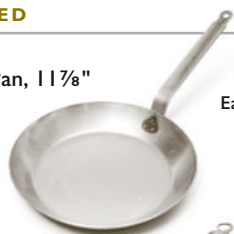
**MATFER BOURGEAT**  
**Black Steel Round Frying Pan, 11 7/8"**

MODEL: 062005

PRICE: \$44.38

WEIGHT: 4.7 lb

COOKING SURFACE: 9 in



Cooking ★★★  
Nonstick ★★★  
Ease of Use ★★★

This affordable pan had it all: thick, solid construction; a smooth interior with no handle rivets to bump the spatula or trap food; an ergonomically angled handle; and sides flared just right for easy access but high enough to contain splashes. Steaks formed a deeply crisp crust, tarte Tatin caramelized beautifully and released neatly, and fried eggs just slipped around in the pan.

**BLU SKILLET IRONWARE**  
**13" Fry Pan**

MODEL: SQ2281937

PRICE: \$230.00

WEIGHT: 5.5 lb

COOKING SURFACE: 10 in



Cooking ★★★  
Nonstick ★★★  
Ease of Use ★★★

This costly, beautifully designed pan is a hand-forged piece of art, but it's also built to work hard. It arrived preseasoned, with the metal heat-treated to a lovely shade of slate blue, though it darkened with use. With its broad cooking surface, nicely flared sides, and perfect browning and release, it was a pleasure to use. Our only quibble (besides price): It's heavy. The large helper handle is a useful addition.

## RECOMMENDED

**MAUVIEL M'steel**  
**Round Fry Pan, Steel Handle 12.5"**

MODEL: 3651.32

PRICE: \$79.95

WEIGHT: 5.1 lb

COOKING SURFACE: 10 in



Cooking ★★★  
Nonstick ★★★  
Ease of Use ★★½

Very spacious and sturdy, with low sides and a reliably slick surface, this pan browned evenly but felt slightly heavier than ideal and lacked a helper handle to share the weight.

**TURK**  
**Heavy Steel Frying Pan 11"**

MODEL: 66228

PRICE: \$79.00

WEIGHT: 4.3 lb

COOKING SURFACE: 8 in



Cooking ★★★  
Nonstick ★★★  
Ease of Use ★★

Solidly built, handsome, and well-designed—with low flaring sides, a handle at an accessible angle, and a slippery surface that never stuck—this pan was maneuverable and easy to use. Its seasoning was nicely durable. Its only flaw: a too-small cooking surface that made the pan feel cramped for full-size recipes—it would be best for recipes serving two.

**DE BUYER**  
**Mineral B Frypan, 12.6"**

MODEL: 5610.32

PRICE: \$79.95

WEIGHT: 5.75 lb

COOKING SURFACE: 9 1/4 in



Cooking ★★★  
Nonstick ★★★  
Ease of Use ★½

This roomy, beautifully constructed pan browned foods well and with great release, eventually. The instructions for seasoning had us coat just the cooking surface with oil, leaving the sides to fend for themselves; they stuck and tore tarte Tatin. After more cooking, the sides caught up and the pan didn't stick. Its high-angled handle and heft made it more difficult to maneuver than other pans.

**PADERNO**  
**World Cuisine Heavy Duty Polished Carbon Steel Frying Pan, 12 1/2"**

MODEL: A4171432

PRICE: \$42.34

WEIGHT: 6.2 lb

COOKING SURFACE: 9 1/2 in



Cooking ★★½  
Nonstick ★★½  
Ease of Use ★½

With enough cooking space and the lower-angled handle we prefer, this pan had plenty of promise. But it provided a slightly less slippery release than the top pans, and its sides were a bit too shallow. Its weight made it hard for testers to maneuver.

## RECOMMENDED WITH RESERVATIONS

**LODGE**  
**12" Seasoned Steel Skillet**

MODEL: CRS12

PRICE: \$39.95

WEIGHT: 4.2 lb

COOKING SURFACE: 9 1/4 in



Cooking ★★  
Nonstick ★★  
Ease of Use ★★

This comparatively light pan was very comfortable to lift and handle, and its factory preseasoning seemed like a plus because we could start cooking right away. But in contrast to the other pans in the lineup, its slick seasoning actually deteriorated as we cooked, and food began to stick. Slightly thinner, it also ran a little hot with a tendency toward hot spots; apples caramelized unevenly.

## NOT RECOMMENDED

**VOLLRATH**  
**12 1/2" Carbon Steel Fry Pan**

MODEL: 58930

PRICE: \$45.01

WEIGHT: 3.3 lb

COOKING SURFACE: 9 1/4 in



Cooking ★★  
Nonstick ★★  
Ease of Use ★

This thin pan became superhot superfast—perfect for restaurants, where orders need to move fast, but not so great for home cooks. High, cupped sides made it hard to slide a spatula beneath foods, and an extra-long, steeply angled handle poked us as we stood before the stove. Hot spots made apples caramelize unevenly when we made tarte Tatin. The bottom warped by the end of testing.

# Tapping into Maple Syrup's Secrets

Maple syrup continues to be produced on small farms in the same low-tech way that it has been for centuries. But that's not the whole story.

➤ BY LAUREN SAVOIE ➤

It's early March, and a team of editors and I are driving along a winding dirt road in Vermont on our way to visit a sugar shack tucked against a mountain covered with thousands of maples. At first glance, the passing forest scape is a canvas of barren trees and snowy fields, but a closer look brings into focus a web of silver taps and clear plastic tubing weaving among the trees—the sign that it's sugaring season.

We've timed our trip carefully because sugaring season is both short and temperamental. Not only is the majority of the world's maple syrup produced on relatively small-scale farms, like this one, throughout Canada and the northern United States over a period of just two months each year, but the sap production is entirely weather-dependent: Syrup makers must wait for freezing nights that are followed by warm days, a pattern that causes higher pressure within the tree to push sap out of the tree. Couple that with the fact that it takes 40 gallons of sap to produce just 1 gallon of maple syrup and it's not surprising that this product can fetch more than \$1.50 per ounce.

Anyone who's tasted real maple syrup on pancakes, in desserts, or even in savory glazes or dressings knows that there is no cheap substitute. We confirmed as much a few years ago when we compared a few maple syrups with pancake syrups; the latter, corn syrup-based products that are a fifth of maple syrup's price, tasted cloying and candy-like. This time, we decided to home in on pure maple



Even when we sampled the syrups plain, we found only subtle flavor differences. We recommend buying the cheapest maple syrup you can find.

syrup and gathered eight products, all Grade A Dark Amber since it's the most widely available grade, tasting them plain and baked into maple syrup pie.

## From Sap to Syrup

Pure maple syrup is simply sap from sugar maple

trees that has been boiled to concentrate its sugar. To harvest it, taps connected to plastic tubing are drilled into the trees; the sap flows through the tubing into large storage containers where it's held for no more than 24 hours (unprocessed sap is only about 2 to 3 percent sugar, so it spoils quickly). When it's time to boil, the sap is transferred to an evaporator pan set over a large fire and reduced until it reaches 66 percent sugar density. (If it's boiled much longer, the syrup will start to crystallize; any less and it will eventually spoil.)

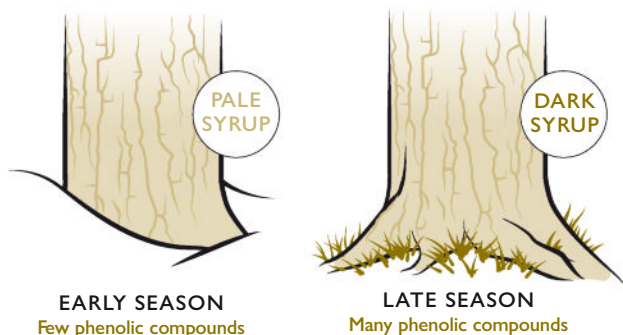
After the sap has been boiled and filtered, it's graded according to color, which also helps categorize the strength of its flavor. David Lutz, a forest ecologist at Dartmouth College, explained that syrup color and flavor are primarily determined by changes in the chemical composition of the sap throughout the sugaring season. At the start of the season, the syrup is very light-colored because the sap is infused with stored sucrose from the winter and generally free from compounds that impart strong flavors or a dark color. (The earliest, clearest sap was historically graded "A, extra fancy" because it was the best representation of a neutral-tasting sugar substitute.) As the season progresses, the

environment becomes more biologically active, the tree prepares to bloom, and hundreds of phenolic compounds—the same types of chemicals found in tea and wine—start flowing through the sap, darkening its color and deepening its flavor.

Although Vermont and some other states have their own grading systems, there are no universal grading standards in the syrup industry. But there are five main grades that range from Grade A Light Amber to Commercial—the latter a syrup so strong-tasting that it's reserved for industrial use. To assess color and assign a grade, some syrup producers use a spectrometer, a tool that measures the amount of light transmitted through the syrup, but more often grading is low-tech and subjective: Syrup makers simply compare their finished syrup to color charts or small vials of dyed glycerin. If the syrup falls between two hues, producers often choose the darker grade because syrup may darken with time due to oxidation. (Note: The U.S. Department of Agriculture and a handful of syrup-producing states will be issuing new grading

## How Nature Colors Syrup

The color of maple syrup ranges dramatically over the course of the two-month sugaring season due to natural chemical changes in the sap. As the tree becomes more biologically active, phenolic compounds develop that infuse the sap, imparting color (and flavor). First-of-the-season sap is almost clear because it contains few of these compounds. As the season progresses and the tree prepares to bloom, more compounds deepen the color of the sap.



conventions for maple syrup effective in 2017.)

Perhaps because grading is such an imprecise process, we noticed some color differences among the syrups in our testing, even though they were all labeled the same Grade A Dark Amber. Some were dark like molasses, while others were only faintly golden—but surprisingly these color differences did not correlate to the syrups' flavors. Most of the lighter-colored products tasted just as robust as darker ones. In fact, we were hard-pressed to find any distinct differences among the syrups other than color. Ultimately, we recommend them all.

### Pooling Resources

Still, we were curious about the discrepancy between syrup color and flavor and turned to Michael Farrell, director of Cornell's Sugar Maple Research & Extension Field Station, Uihlein Forest, for an explanation. He noted that unless you're comparing the very lightest grade with the darkest one, the differences in flavor can be pretty subtle. More significantly, he added, the distinct flavors in maple syrup have been literally blended out of most supermarket brands. Because each maple tree averages only 1/4 gallon of maple syrup over the entire season, it's impossible for most producers to acquire the land or resources necessary to yield enough volume for national distribution. Instead, most producers sell their syrup to large packagers, which pool hundreds of different products and bottle the blends under a brand name. Farrell and other experts told us that to get the color and flavor profile that falls within the Grade A Dark Amber spectrum, the most marketable grade of syrup, they blend different grades. "If their Dark Amber is looking a little too dark, they might mix in medium to lighten it up," Farrell said. The goal is "to try to make a consistent product."

Some packagers might even doctor the syrups with cheaper sweeteners to maximize their yield, but Farrell doesn't feel that it's a major issue in the industry. His bigger concern is pancake syrups masquerading as pure maple syrup, either from packaging that makes pancake syrup look like the real thing or from the inclusion of a small amount of pure maple syrup. "It changes people's opinions of real maple syrup," he said.

To us, there's a distinct advantage to blending: It means that all Grade A Dark Amber syrups sold in supermarkets are going to taste very similar, so our advice is to buy the cheapest all-maple product you can find.

### Single-Origin Syrups: Worth the Splurge?

While most maple syrup producers sell their products to large packagers who blend and sell them commercially, there are also some who sell their own unblended syrups directly from their farms (or through local specialty stores). Curious if these single-origin syrups would have more distinct, nuanced flavors—and if they would be worth mail-ordering—we tasted five (priced from \$0.48 to \$1.33 per ounce) alongside one of the supermarket brands. We liked them all, but none had distinct enough nuances to warrant the shipping charges—a result that maple syrup expert Michael Farrell said isn't surprising. "Most people," he noted, "aren't going to be able to tell the difference."

## PICK A SYRUP, ANY SYRUP

Twenty-one America's Test Kitchen staffers sampled eight nationally available supermarket brands of Grade A Dark Amber maple syrup in two blind tastings—plain and in maple syrup pie—and rated them on flavor, sweetness, and strength of maple flavor. We obtained information about processing methods from manufacturers and industry experts. Because we found all the syrups to be very similar and recommend them all, we don't have a favorite; instead, they appear in order of price per fluid ounce.

### RECOMMENDED



#### UNCLE LUKE'S

##### Pure Maple Syrup, Grade A Dark Amber

PRICE: \$20.69 for 32 fl oz (\$0.65 per fl oz)

The least expensive product we tried, which looked particularly dark and "molasses-y," boasted "rich caramel flavor" that tasted "pleasantly toasty" in pie.

#### HIGHLAND SUGARWORKS

##### Pure Organic Maple Syrup, Grade A Dark Amber

PRICE: \$23.87 for 32 fl oz (\$0.75 per fl oz)

This "very light"-colored syrup was "buttery," "smooth," and "sweet." Some tasters picked up on "fruity" or even "coffee" flavors.

#### COOMBS FAMILY FARMS

##### Pure Maple Syrup, Grade A Dark Amber

PRICE: \$24.54 for 32 fl oz (\$0.77 per fl oz)

"Butter and vanilla" flavors stood out in this dark brown syrup, which some tasters likened to "maple sugar candy."

#### ANDERSON'S

##### Pure Maple Syrup, Grade A Dark Amber

PRICE: \$26.19 for 32 fl oz (\$0.82 per fl oz)

This syrup, which boasted the deepest "caramelized brown color," delivered "rich," "woody" smokiness and strong "caramel" notes that stood out particularly well in maple syrup pie.

#### MAPLE GROVE FARMS

##### Pure Maple Syrup, Grade A Dark Amber

PRICE: \$6.99 for 8.5 fl oz (\$0.82 per fl oz)

With "bold," "concentrated maple flavor," this syrup worked well in the pie's custard filling, where tasters deemed it "toasty," "caramelized," and "balanced."

#### MAPLE GOLD

##### Pure Maple Syrup, Grade A Dark Amber

PRICE: \$16.50 for 12 fl oz (\$1.38 per fl oz)

Tasters picked up on this dark-colored syrup's "toasty," "woody," "assertive vanilla" flavors and even noticed some "tanginess."

#### SPRING TREE

##### Pure Maple Syrup, Grade A Dark Amber

PRICE: \$18.49 for 12.5 fl oz (\$1.48 per fl oz)

This "balanced," "complex" syrup had flavor notes that ranged from "bright and tangy" to "woody," with a "sweet finish."

#### CAMP

##### Pure Maple Syrup, Grade A Dark Amber

PRICE: \$19.95 for 12.7 fl oz (\$1.57 per fl oz)

This "light-colored syrup" impressed tasters with its "good balance of maple depth and tang" and range of complex flavors—from "smoky" to a "hint of orange."

### DID YOU KNOW?

All products reviewed by America's Test Kitchen, home of *Cook's Illustrated* and *Cook's Country* magazines, are independently chosen, researched, and reviewed by our editors. We buy products for testing at retail locations and do not accept unsolicited samples for testing. We do not accept or receive payment or consideration from product manufacturers or retailers. Manufacturers and retailers are not told in advance of publication which products we have recommended. We list suggested sources for recommended products as a convenience to our readers but do not endorse specific retailers.

# INGREDIENT NOTES

➤ BY KEITH DRESSER, ANDREA GEARY, LAN LAM & ANNIE PETITO ✦

## Tasting Fish Sauce

At first blush, fish sauce might seem like an odd concept. Like soy sauce, it's both a condiment and an ingredient, and it's full of glutamates that enhance flavor. But while soy sauce is made from comparatively mild-tasting fermented soybeans and grains, fish sauce gets its flavor from something far more potent: fermented anchovies. Manufacturing methods vary, but the basic process is the same: Fresh, whole anchovies are layered with sea salt and left to ferment for at least 12 months. Over time, the fish breaks down and the salty liquid that forms is collected and filtered before bottling. It's strong stuff with an intense aroma. But there's a reason this pungent sauce is a critical component of many Asian cuisines and is becoming increasingly common in American kitchens: Its savory, briny taste brings out depth in everything from dipping sauces and soups to stir-fries and marinades.

We gathered five products from grocery stores and Asian markets and sampled each over white rice, mixed into a Thai dipping sauce, and in our recipe for Vietnamese Caramel Chicken. Every sauce was intensely flavored, but the best balanced saltiness with a complex savory taste. Less successful sauces were either overwhelmingly salty or unpleasantly fishy. Protein content turned out to be key: An independent lab confirmed that our winner had nearly double or even triple the protein of other products. Though it also had more sodium, its abundance of protein prevented it from tasting overly salty. It was also the only product not to include sugar.

Our new favorite, Vietnamese import Red Boat 40° N Fish Sauce, is the most expensive sauce in the lineup, but we think its richly nuanced, balanced flavor is worth a few more pennies per ounce. For complete tasting results, go to [CooksIllustrated.com/oct15](https://cooksillustrated.com/oct15). —Kate Shannon

### RECOMMENDED

#### RED BOAT 40° N Fish Sauce

PRICE: \$7.99 for 8.45 fl oz (\$0.95 per fl oz)

INGREDIENTS:  
Anchovy, sea salt

PROTEIN:  
20.58% by weight

SODIUM:  
1,490 mg per 1-tbs serving

COMMENTS: With nearly double (or even triple) the protein of other brands, this fish sauce tasted "complex, not just fishy."



#### THAI KITCHEN Premium Fish Sauce

PRICE: \$4.99 for 6.76 fl oz (\$0.74 per fl oz)

INGREDIENTS:  
Anchovy extract, salt, sugar

PROTEIN: 11.44% by weight  
SODIUM: 1,360 mg per 1-tbs serving

COMMENTS: Though this sauce was slightly milder than our winner, tasters thought that our runner-up provided a "good base flavor" that added depth to recipes.



## Ribs That Aren't

We're not sure how country-style ribs, which we call for in our Sweet and Tangy Grilled Country-Style Pork Ribs recipe (page 14), got their name, since they are more like pork chops. Traditional spareribs or baby back ribs feature thin strips of meat separated by rib bones. The former is cut from the belly of the pig; the latter from the loin area near the backbone. Country-style ribs, however, come from the region where the loin meets up with the blade, or shoulder, of the animal. Therefore, they contain a mix of lean light meat from the loin, rich dark meat from the shoulder, and, if bone-in, part of the shoulder blade or rib bone. Even though their name is confusing, we are still big fans of country-style ribs: They are meaty, cook quickly, and boast rich pork flavor. —L.L.



### NOT ALL COUNTRY-STYLE RIBS ARE ALIKE

Don't be alarmed if a single package of country-style ribs contains a motley assortment of pieces. It's common to find small and large bones, dark and light meat, and varied marbling.

## Parmesan Rind Substitutes

We often borrow the classic Italian trick of adding a Parmesan rind to stews or soups to boost their savory depth. The rind is particularly good for seasoning because it's the part of the cheese where most of the bacteria and mold grow and, thus, the source of strong aroma and flavor compounds. Could the rinds from other aged cheeses do the same job? We experimented with adding a few different rinds to minestrone to find out. While an Asiago rind made the soup taste unappealingly gamey, tasters agreed that rinds from both Pecorino Romano and Gruyère added a savory flavor comparable to that of the Parmesan rind. If you don't have a rind, any one of these cheeses is also an acceptable substitute. This will result in some stringy melted cheese stuck to the bottom of the pot, but you can simply leave it behind when serving. —K.D.

## Getting the Most out of Leeks

Since just the white and light green parts of a leek are tender—the tough dark green parts are suitable only for making stock—it pays to select specimens that have a higher proportion of the desirable light-colored base. How you prep them makes a difference, too: The traditional method is to simply chop off the leek at the point where light gives way to dark, but the usable pale, tender portion actually extends above this line in the interior of the vegetable. To preserve that part, we've adopted a new trimming method that results in a roughly 15 percent greater yield. —A.G.



1. Cut leek diagonally from point where leaves start to darken to middle of dark green portion.

2. Peek inside to determine where light green turns dark. Cut diagonally again, preserving light portion.

3. Repeat twice to create pointed shape with pale leaves.

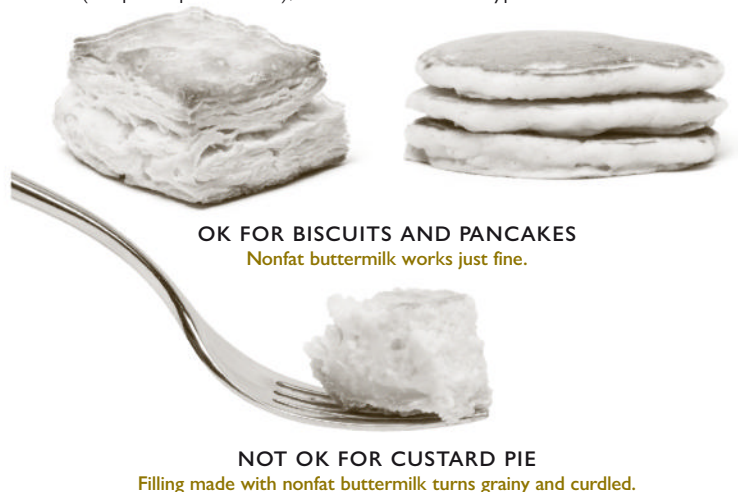
## The Mayo Advantage for Grilled Cheese

Some cooks we know swear by spreading mayo on the bread for grilled cheese instead of butter. Since it saves the step of having to soften butter to make it spreadable, we decided to test this method ourselves. Both butter and mayonnaise produced sandwiches with crisp, well-browned exteriors. Unsurprisingly, the sandwiches made with butter tasted more buttery, while the mayonnaise versions had a slight but discernible tang. But both samples were deemed entirely acceptable.

A word of warning: Though we're fans of light mayonnaise (our favorite light mayo closely rivaled our favorite full-fat version in a side-by-side taste test), it won't work here. Because the low-fat product has only one-third of the fat of regular mayonnaise (water is the first ingredient listed), it makes a pale, soggy grilled cheese. —A.G.

## Low-Fat versus Nonfat Buttermilk

Readers have asked us if low- and nonfat buttermilk are interchangeable in baking recipes. To find out, we made pancakes with both types and found that they produced comparable results in both appearance and texture. Our Flaky Buttermilk Biscuits (page 7) revealed a little more variation—those made with nonfat buttermilk were slightly denser and not as flaky—but both options produced acceptable biscuits. Buttermilk pie, though, was another matter: The filling made with nonfat buttermilk was grainy and slightly curdled. That's because low-fat buttermilk has an asset that nonfat buttermilk lacks: fat, which helps prevent eggs in a custard from curdling. Fat coats the proteins, making them less likely to clump. So you can use non- and low-fat buttermilk interchangeably in most recipes. However, if you're making a custard-style dessert (like pie or panna cotta), stick with the low-fat type. —A.P.



## Another Way to Thicken Soups

Many pureed soup recipes call for sliced white sandwich bread as a thickener. Since we don't always have sandwich bread on hand, we wondered if oats might work just as well. We made three of our soups that we thicken with bread—potato-leek, creamy tomato, and Italian garlic soup—subbing in ½ cup of oats for each slice of bread called for in the recipe. The oats worked well in the potato and garlic soups, but tasters found that they dulled the bright flavor of the tomato soup and created a slightly gelatinous consistency. We fixed both issues simply by reducing the amount of oats by half.

In sum: Whole oats can be used instead of bread to thicken soup. (Quick oats work fine, too.) Use ½ cup oats per slice of bread for most soups. For tomato-based soups, only use ¼ cup oats per slice. —A.J.



**OATS INSTEAD OF BREAD**  
Substitute ½ cup oats per slice of bread, unless the soup is tomato based, in which case substitute only ¼ cup oats per slice.

## DIY RECIPE Apple Butter

Although it's in the same family as applesauce, apple butter goes a step further, requiring cooking down apples to concentrate their flavor, drive off water, and caramelize their sugars. The result is a dark, complex-tasting spread that is ideal for serving with baked goods or cheese or as a sandwich spread. Most store-bought versions overwhelm the apple flavor with an abundance of cinnamon, nutmeg, and cloves. To keep the apple flavor up front in our homemade butter, we skip all the spices and instead add apple brandy, apple cider, and some lemon juice for brightness. Since firm texture wasn't an issue, we picked two types of apples for flavor complexity—Fuji for its sweet, honey-like notes and McIntosh for classic apple taste. Because softer McIntosh apples break down more quickly than Fuji apples, we cut them into larger pieces. Cooking them with their skins on extracts maximum flavor. —Christie Morrison

### APPLE BUTTER

MAKES ABOUT 3 CUPS

A food mill is the easiest way to remove the skins and puree the apples.

- 2 pounds McIntosh apples, cored, quartered, and cut into 2-inch pieces
- 2 pounds Fuji apples, cored, quartered, and cut into 1-inch pieces
- 1 cup apple cider
- 1 cup Calvados or applejack
- 1 cup (7 ounces) granulated sugar
- ½ cup (3½ ounces) packed light brown sugar
- 3 tablespoons lemon juice
- ¼ teaspoon salt



Simmer apples, cider, and Calvados.

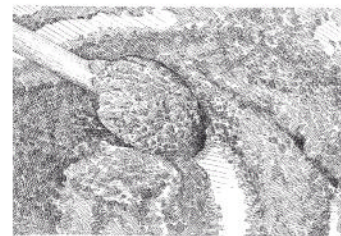


Process in food mill.

1. Combine apples, cider, and Calvados in large Dutch oven and bring to boil over medium-high heat. Reduce heat to medium-low, cover, and simmer, stirring occasionally, until apples are very soft, about 30 minutes.

2. Working in batches, transfer apples to food mill and process. Discard skins and transfer puree to now-empty Dutch oven. Stir in granulated sugar, brown sugar, lemon juice, and salt. Simmer over low heat, stirring occasionally, until mixture is browned and thickened and rubber spatula or wooden spoon leaves distinct trail when dragged across bottom of pot, 1 to 1½ hours.

3. Transfer apple butter to jar with tight-fitting lid and let cool completely before covering and refrigerating. Apple butter can be refrigerated for up to 1 month.



Simmer with sugars, lemon juice, and salt.

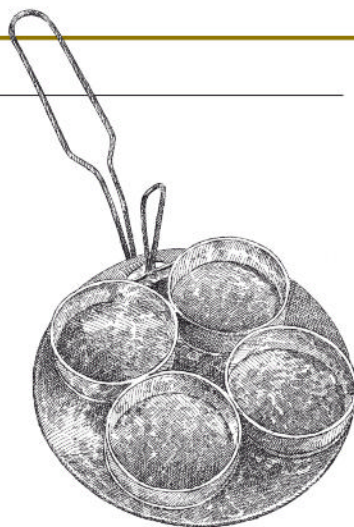
**RECIPE UPDATE:** Our New York Bagels recipe (May/June 2015) calls for 10 ounces of water to make the dough. While the recipe will work with this amount, some readers found that unless using the precise quantity of flour measured by weight, not volume, the dough could be somewhat sticky. To ensure the best results no matter how the flour is measured, we recommend using 9 ounces (1 cup plus 2 tablespoons) of water rather than 10 ounces.

# KITCHEN NOTES

➤ BY ANDREA GEARY, ANDREW JANJIGIAN, LAN LAM & DAN SOUZA ➤

## WHAT IS IT?

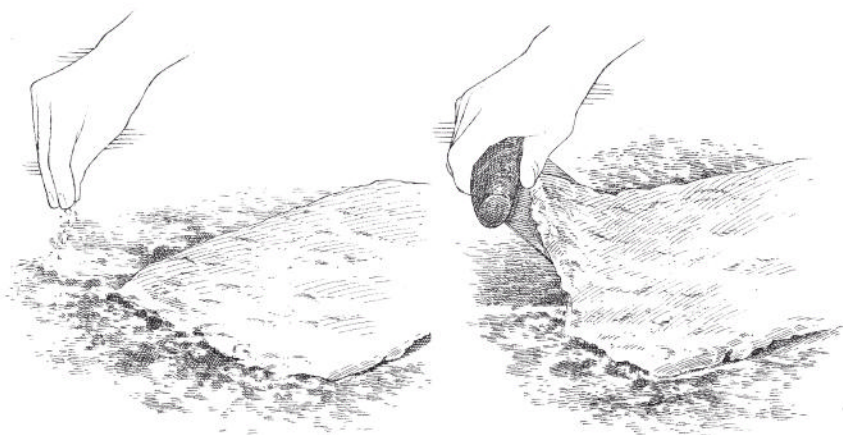
A perfectly poached egg is compact, saucer-shaped, and free of feathery whites. Could the tin Egg Poacher, a late-19th-century invention that we purchased on eBay for \$25, help us achieve that goal? Its four circular molds contain the eggs as they sit on a perforated plate, which allows water to circulate during cooking and drain away afterward. When the eggs are done cooking, you remove the poacher from the water with the handle, which features a thumb-operated spring-loaded lever that lifts the molds away from the plate so the poached eggs can slide off. A cookery book of the era, *Miss Parloa's Kitchen Companion: A Guide for All Who Would Be Good Housekeepers* (1887), proclaimed the Egg Poacher “so convenient that one could hardly do without it . . .” Though we found that the tool did indeed produce four beautifully poached eggs, using it was a little harrowing. The only pan that could accommodate its low handle height was a shallow skillet, which we had to fill to the rim with water to cover the molds. When the water boiled, it shot through the center perforation like a geyser and threatened to bubble over. We'll pass on this gadget. —Shannon Friedmann Hatch



**IMPERFECT POACHER**  
Though it poached eggs nicely, this gadget felt dangerous to use.

## A Better Way to Keep Dough from Sticking

The usual way to keep pie, cookie, or biscuit dough (such as the dough for our Flaky Buttermilk Biscuits, page 7) from sticking is to first sprinkle the counter with a generous amount of flour before rolling out the dough. But dough can still stick and thus be vulnerable to tearing when you try to lift it from the counter. Here's an approach that allows you to bring flour directly to the area where the dough is sticking and to use just the amount of flour needed to release it. You will need a bench scraper for this method. —A.J.



1. Place dough on lightly floured counter. If it sticks during rolling, sprinkle flour liberally around perimeter of dough.

2. Slide bench scraper under dough, dragging flour along with it. Repeat, sliding scraper and more flour under dough until it releases completely from counter.

## Two Speedy Ways to Soften Butter

A stick of butter takes about an hour to soften at room temperature, so we came up with two methods for speeding the process.

For baking applications where butter is creamed, cut the stick into 1-tablespoon pieces (more exposed surface area helps the butter warm evenly) and stand them on a plate. The pieces will soften in about 20 minutes. For simply spreading butter on bread or making flavored butters (such as for Pan-Seared Flank Steak with Mustard-Chive Butter, page 5), microwave the pieces at 50 percent power in 10-second increments until the butter is still solid but yields completely to pressure. It's OK if the butter melts a little; simply stir it together until it's uniform. Just don't use the microwave method when baking since over-softened butter can compromise baked goods. —A.G.

## Frosting Cakes with Flair

Giving cakes a polished look need not require pastry bags and years of practice. Here are three easy techniques for finishing layer cakes.

### C-SHAPED SWIRL

Beginning on side of cake, use small spoon to make C-shaped swirl. Make second swirl next to first about 3/4 inch away, orienting C in different direction. Make more swirls, oriented in different directions, over sides and top of cake until frosting is completely covered.

### ZIGZAG

Gently run spatula (offset works best) over sides and top of cake to smooth frosting. Holding 12-inch-long serrated knife at both ends with blade facing down and centered over top of cake, gently move knife from side to side to create zigzag pattern.

### SPIRAL

Set cake on turntable-style cake stand. Place tip of offset spatula or spoon at center of cake. Slowly rotate cake while dragging tip of spatula or spoon toward edge to create spiral. —L.L.



## Brining Beans in Half the Water

In the test kitchen we soak dried beans in salt water overnight to soften their skins, which helps them cook more evenly and reduces the number of beans that rupture. Our formula uses a gallon of water and 3 tablespoons of salt to soak 1 pound of beans. But some readers have asked if a full gallon of brine is really necessary. We tested lesser amounts to see just how little liquid we could get away with using. We found that 2 quarts of water (and 1 1/2 tablespoons of salt) will work perfectly well for a pound of beans, but it's a good idea to use a deep container (a bowl rather than a wide Dutch oven) to ensure that the beans remain submerged as they hydrate and swell. —A.G.

## Don't Bother with a Dough Blade

Many food processors come with dough blades, which typically feature short, blunt arms that gently pull and tear dough to knead it. But because the short arms don't extend to the outside rim of the work bowl, they're limited in their ability to pick up flour when small amounts are processed. Thus our winning food processor, the Cuisinart Custom 14-Cup Food Processor, advises using its dough blade only for recipes that call for at least 3½ cups of flour. When we made batches of pizza dough with 4½ cups of flour using the metal blade and the dough blade, each did a comparable job of kneading the dough, but the metal blade did it 15 percent faster. In fact, we find that the efficiency of the metal blade makes it preferable for all dough. Given all this, we're not sure why manufacturers even bother including it as an accessory in the first place. We're sticking with the metal blade for all doughs. —A.J.



**SUPERFLUOUS ACCESSORY**

## Why Burgers Need a Rest

Who hasn't eaten a burger on a bun so saturated with meat juices that it was practically falling apart? There's an easy way to mitigate that problem: Let your burgers rest briefly before placing them on buns. In raw meat, most of the juices are stored in individual structures called myofibrils. Cooking causes the proteins to contract and expel some of the liquid. If the meat is given a chance to rest off heat, the proteins relax, allowing some of the juices to be reabsorbed. We advocate a rest for most meat, but it's particularly important for burgers. Burgers are always cooked directly over high heat, which raises their temperature at the surface. This in turn causes the proteins to be squeezed harder, so more moisture is lost. Letting ground beef rest is also important because a significant amount of fat will drain away instead of collecting in the bun.

For perfect burgers (and buns), let the burgers rest for 5 minutes, tented with foil and preferably on a rack so moisture doesn't collect underneath, before transferring them to buns. —A.J.

## SCIENCE Why Gas Grills Need to Preheat Longer

We call for preheating charcoal grills for 5 minutes but gas grills for a full 15 minutes. Why the difference? Both types of grills cook food through radiant heat and conductive heat. Radiant heat browns and cooks the portions of food between the bars of the cooking grate; the hot grate cooks food it touches through conductive heat. (Both types of grills also cook food through convection, the transfer of heat through air.) With a charcoal grill, because the hot coals produce an abundance of radiant heat, preheating the grill is simply serving to heat up the walls and cooking grate. But with a gas grill, preheating serves two functions. Gas flames do not produce much radiant heat, so manufacturers place metal bars, ceramic rods, or even lava rocks between the flames and the cooking grate. It takes about 15 minutes for these items to convert the heat of the flames into radiant heat that can both get the grate searing hot and cook food directly. So what happens when you skimp on the time? Our test—toasting bread for 1 minute on gas grills preheated for just 5 and 10 minutes—shows that the results suffer. —L.L.



**PREHEATED 5 MINUTES**



**PREHEATED 10 MINUTES**



**PREHEATED 15 MINUTES**

## SCIENCE Making Flank Steak More Tender

We know that it's possible to make relatively tough cuts like flank steak more tender by thinly slicing them against the grain—that is, perpendicular to the orientation of the muscle fibers—rather than with the grain. But how much more tender? We decided to quantify just how much difference using the correct slicing method can make.

### EXPERIMENT

We cooked a whole flank steak in a temperature-controlled water bath to 130 degrees, cut equally thick slices both with and against the grain, and used an ultrasensitive piece of equipment called a CT3 Texture Analyzer from Brookfield Engineering to test how much force was required to “bite” into the slices. We repeated the experiment three times and averaged the results. We also duplicated the tests with a more tender piece of strip loin.



### RESULTS

Flank steak slices carved against the grain required 383 grams of force to “bite” 5 millimeters into the meat, while slices carved with the grain required a whopping 1,729 grams of force—more than four times as much—to travel the same distance. Strip loin slices carved against the grain required 329 grams of force; with the grain, 590 grams of force.

STEAK	CUT	FORCE NEEDED TO BITE
flank steak	against grain	383 grams
	with grain	1,729 grams
strip loin	against grain	329 grams
	with grain	590 grams

### EXPLANATION

Flank steak contains wide muscle fibers and a relatively high proportion of connective tissue that make it chewy. Slicing it against the grain shortens those muscle fibers, making it easier to chew.

### TAKEAWAY

Slicing against the grain dramatically narrowed the gap in tenderness between the strip and flank steaks. Flank steak sliced with the grain was 66 percent tougher than strip steak sliced with the grain, but that difference dropped to just 14 percent when both types of steak were sliced against the grain. So while all cuts benefit from slicing against the grain, it's especially important when slicing flank steak. In fact, slicing a flank steak properly can make it tender enough to rival premium steaks. —D.S.

### SCIENCE OF COOKING: HOW TO SLICE STEAK

The way you slice steak can make all the difference. Here's why. Free for 4 months at [CookIllustrated.com/oct15](http://CookIllustrated.com/oct15)



# EQUIPMENT CORNER

➤ BY HANNAH CROWLEY, LISA McMANUS & KATE SHANNON ◀



## HIGHLY RECOMMENDED

## RECOMMENDED WITH RESERVATIONS

## HIGHLY RECOMMENDED

## HIGHLY RECOMMENDED

## RECOMMENDED

**SIMPLEHUMAN**  
Tension Arm Paper Towel  
Holder  
MODEL: KT1161  
PRICE: \$24.99

**RIBALIZER**  
Rib Rack  
MODEL: N/A  
PRICE: \$29.95

**VINNIBAG**  
Wine Travel Bag  
MODEL: VB01  
PRICE: \$28.00

**OXO**  
Good Grips Bent Icing Knife  
MODEL: 73591VI  
PRICE: \$9.99

**COLE & MASON**  
Derwent Gourmet  
Precision Pepper Mill  
MODEL: H59401G PM  
PRICE: \$40.00

## TESTING Paper Towel Holders

A paper towel holder aids with tearing and protects the roll from wet spots and spills. Determined to find a sturdy holder that would make tearing quick, precise, and tidy, we purchased six models (priced from \$13.00 to \$24.99). All consisted of a center pole set on a metal base, sometimes with an arm to provide resistance for tearing. We tore off sheets in small and large increments and noted which models were easy—or not—to handle and move.

Whereas straight, stationary arms became useless once a few layers of towels had been pulled off, angled and hinged arms made one-handed tearing more precise, prevented sheets from drooping, and kept rolls looking tidy. Plus, they accommodated rolls of any size. Heavier models were more stable, and we liked tall, easy-to-grip center poles, as long as their tops didn't need to be removed each time a roll needed replacing. Meeting all those criteria was the Simplehuman Tension Arm Paper Towel Holder (\$24.99), which was sturdy, secure, and easy to carry. —K.S.

## TESTING Ribalizer

Most barbecued rib recipes require at least 4 hours of cooking and yield only a couple of racks. The Ribalizer (\$29.95), which looks like a large toast rack set in a metal pan, promises as many as six racks in 2 hours when cooking ribs on a gas grill. Users prop up the rib racks between the bars and add liquid to the pan below. The ribs cook uncovered for 45 minutes and are then covered with a second pan (steam helps them cook faster) for another hour of cooking.

We cooked baby back and larger St. Louis-style ribs with the Ribalizer and found that it performed as promised; it was also a cinch to set up and use. But there's a considerable drawback: Since the ribs steam, they develop no deeply flavorful char and "bark"—arguably the best part of barbecued ribs. Ultimately, we think the Ribalizer is worth considering if you're a novice griller, want to shortcut the cooking process, or need to make a lot of ribs at once, but just know that their flavor won't be the same as true barbecue. —H.C.

## TESTING Wine Travel Bags

You can tuck a bottle of wine between soft clothes in a suitcase and hope that it doesn't break, or you can shield it in a wine travel bag that's designed to protect bottles on the go. We tested four (priced from about \$5.00 to \$28.00) made of plastic or neoprene by dropping them from waist height, packing them in a suitcase and tossing them as an airplane baggage handler might, and rolling them down a flight of stairs. We even flew them back and forth across the country.

Two bags were useless: Their bottles frequently broke, and often the shards of glass slashed the bags' walls, allowing wine to spill everywhere. In the cushiony neoprene bag, bottles broke less often—but when they did, the wine wasn't contained because the neoprene is perforated. The VinniBag (\$28.00), an inflatable bag made from thick, durable plastic (inspired by the dry bags that sailors use), was the best of the bunch; it protected the bottles during all but one extreme drop test and accommodated bottles of all shapes and sizes. We'll be packing one in our luggage from now on. —H.C.

## TESTING Offset Spatulas

For frosting a cake, there's no better tool than an offset spatula. The long, narrow blade is ideal for scooping and spreading frosting, and it bends like a staircase where it meets the handle for better leverage. We tested six (priced from \$5.93 to \$9.99) with blades that measured between 7 and 8 inches from handle to tip—long enough to frost layer cakes but short enough to maneuver inside baking pans—by slathering dozens of jelly rolls and layer cakes with heavy cream cheese frosting, glossy meringue, thick caramel, and smooth buttercream.

Every blade was strong enough to hold a big dollop of frosting, but we preferred those offset to a roughly 30-degree angle, which made it comfortable to frost the sides of a cake. Better blades also offered at least 6½ inches of flat usable surface area for covering the radius of a 9-inch layer cake and were thin enough to slide easily underneath cake layers. Our favorite, the OXO Good Grips Bent Icing Knife (\$9.99), also offered an exceptionally comfortable rubber-coated handle that allowed us to frost cakes with ease. —K.S.

## UPDATE Pepper Mills

The original version of our winning Cole & Mason Derwent Gourmet Precision Pepper Mill (\$40.00) featured a row of painted-on dots that indicated the grind setting, but we found that these wore off over time. We notified the manufacturer, which has since changed to more durable etched-on dots. We purchased one of the improved models, and after more than 16 weeks of heavy test kitchen use, the dots are still intact. To determine whether a mill has the etched-on dots, check the batch number, which you can find printed on the swing tag, above the UPC, or on a product sticker. The number should be 140228 or higher. —L.M.

For complete testing results, go to [CooksIllustrated.com/oct15](http://CooksIllustrated.com/oct15).

# INDEX

September & October 2015

## MAIN DISHES

Black Bean Burgers 19  
Pan-Seared Flank Steak with  
Mustard-Chive Butter 5  
Sausage Meatballs and Spaghetti 11  
Spanish Braised Chicken with Sherry  
and Saffron (Pollo en Pepitoria) 9  
Sweet and Tangy Grilled Country-Style  
Pork Ribs 14

## SIDES AND SPREADS

Apple Butter 29  
Avocado-Feta Spread 19  
Chipotle Mayonnaise 19  
Flaky Buttermilk Biscuits 7  
Pita Bread Salad with Tomatoes and  
Cucumber (Fattoush) 13  
Roasted Tomato-Orange Jam 19  
Sautéed Summer Squash  
with Mint and Pistachios 15  
with Parsley and Garlic 15

## DESSERT

Chocolate-Caramel Layer Cake 22

## MORE ONLINE

Pan-Seared Flank Steak  
with Garlic-Anchovy Butter  
with Sriracha-Lime Butter  
Pita Bread Salad with Tomatoes and  
Cucumber (Fattoush) for Two  
Sautéed Summer Squash with Oregano and  
Pepper Flakes  
Sweet and Tangy Barbecue Sauce

## EXPANDED REVIEWS

Tasting Fish Sauce  
Testing Carbon-Steel Skillets  
Testing Kitchen Trash Cans  
Testing Offset Spatulas  
Testing Paper Towel Holders  
Testing Ribalizer  
Testing Wine Travel Bags

## RECIPE VIDEOS

Want to see how to make any of the  
recipes in this issue? There's a video for that.

## MORE VIDEOS

Science of Cooking: How to Slice Steak

## FOLLOW US ON SOCIAL MEDIA

facebook.com/CooksIllustrated  
twitter.com/TestKitchen  
pinterest.com/TestKitchen  
google.com/+AmericasTestKitchen  
instagram.com/TestKitchen  
youtube.com/AmericasTestKitchen



## America's Test Kitchen COOKING SCHOOL

Visit our online cooking school today, where we offer  
180+ online lessons covering a range of recipes and  
cooking methods. Whether you're a novice just starting  
out or are already an advanced cook looking for new  
techniques, our cooking school is designed to give you  
confidence in the kitchen and make you a better cook.

» **Start a 14-Day Free Trial at**  
[OnlineCookingSchool.com](http://OnlineCookingSchool.com)

## Cook's Illustrated on iPad

Enjoy *Cook's* wherever you are  
whenever you want.

Did you know that *Cook's Illustrated* is available on  
iPad? Go to [CooksIllustrated.com/iPad](http://CooksIllustrated.com/iPad) to download  
the app through iTunes. You'll be able to start a  
free trial of the digital edition, which includes bonus  
features like recipe videos, full-color photos, and  
step-by-step slide shows of each recipe.

Go to [CooksIllustrated.com/iPad](http://CooksIllustrated.com/iPad) to download our app through iTunes.



Grilled Country-Style Pork Ribs, 14



Pita Bread Salad (Fattoush), 13



Sautéed Summer Squash, 15



Spanish Braised Chicken, 9



Pan-Seared Flank Steak with Mustard-Chive Butter, 5



Sausage Meatballs and Spaghetti, 11



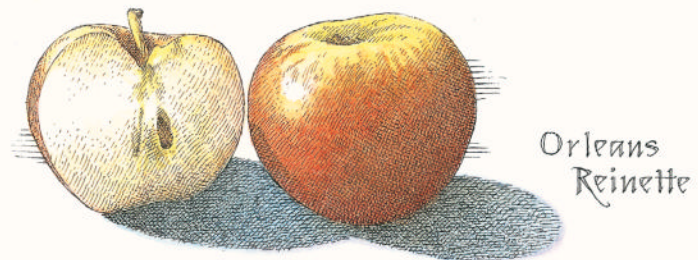
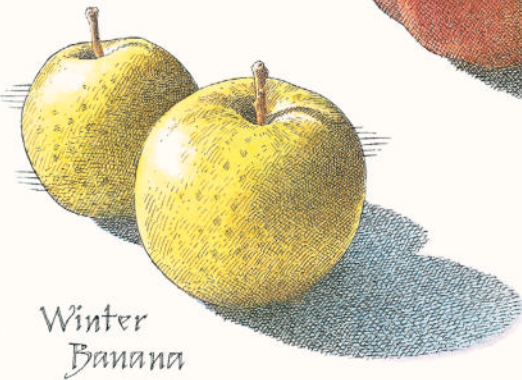
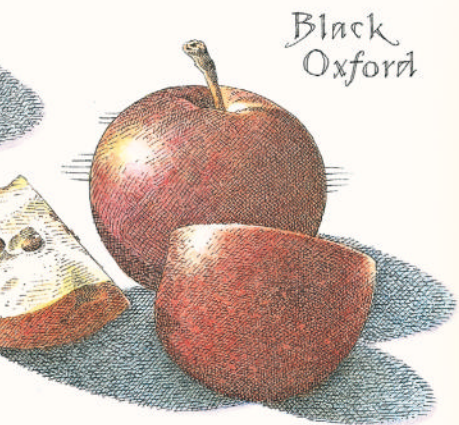
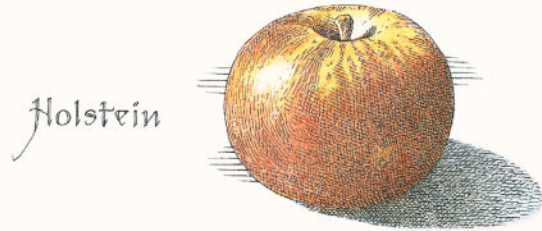
Black Bean Burgers, 19



Flaky Buttermilk Biscuits, 7



Chocolate-Caramel Layer Cake, 22



# HEIRLOOM APPLES